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SALE OF RIORDON PROPERTIES WIPES OUT STOCKS

Auctioning Off of Company's Assets Leaves Preferred and Common Shareholders Clutching Worthless Securities—Assets Sold for Approximately $7,000,000 Were Placed in the Balance Sheet Three Years Ago at About $70,000,000—From Investment Standpoint Sale Marks Most Spectacular Crash in Industrial History of Canada—Final Disposition of Properties in Doubt

[FROM OUR REGULAR CORRESPONDENT.]

MONTREAL, Que., September 15, 1924.—The outstanding event of the week in the industry here has been the sale of the properties of the Riordon Company, Limited. The real significance of this sale rests in the final notice that has thereby been indicated to the preferred and common shareholders that their stock is of absolutely no value, and that no matter what happens now in connection with the enterprise, no value can accrue to these securities.

The properties were put up at auction at the company's offices in Montreal. The respective properties were bid in by the two groups of bondholders, 8 per cent. and 6 per cent., for a total of $7,302,500, subject to liens against them of $1,500,000, and the significance of these figures can be gathered when it is stated that, while the Riordon Company was still a going concern in July of 1921, the properties were placed in the balance sheet at a total of approximately $70,000,000.

Final Disposition in Doubt

This sale, at which the representatives of the two groups of bondholders were the only bidders, does not settle the question as to what is finally to become of the Riordon properties. The bondholders are bankers rather than pulp manufacturers, and what they will do now that they have obtained possession of the properties remains to be seen. The rumor of the possibility of their sale to the International Paper Company persists despite denials. Incidentally President Graustein, of the International Paper Company, was present at the sale, but as legal representative of the 8 per cent. Riordon bondholders, not as president of the International Paper Company.

Company Makes Statement

Subsequent to the sale, the following statement was given out by the Riordon Company, Limited:

"At the sale of the Riordon and Gatineau properties, held today, the Kipawa and Gatineau properties were bid in by W. E. McGregor, who is the chairman of the committee representing the 8 per cent. bondholders; and the Hawkesbury and Meritton properties (including the Ticonderoga stock) were bid in by Wallace D. Donham, who is the chairman of the committee representing the six per cent. bondholders.

"It is understood that there will be no interruption in the conduct of the business.

"The properties, as offered, were subject to very substantial liens and, subject to these liens, the property bid in by Mr. McGregor fetched a total of $7,002,000, and that bid in by Mr. Donham fetched a total of $300,500."

From an investment point of view the whole affair is the most spectacular crash in industrial history in Canada. Not only were the assets now sold for just over $7,000,000 placed in the balance sheet three years ago at approximately $70,000,000, but the old Riordon Pulp and Paper Company's stock, now declared with the rest as valueless, at one time soared to $226 a share. The exact amount of preferred and common stock of the Riordon Company, Limited, which has been completely wiped out can best be illustrated by the following summary of the capitalization of the two companies, it being noted that the old company is the Riordon Pulp and Paper Company, and the new company, which took in the Kipawa mill and the Gatineau limits, is termed the Riordon Company, Limited.

RIORDON COMPANY, LIMITED

	Outstanding
1st Preferred, 8 per cent	$10,000,000
2nd Preferred, 7 per cent	10,000,000
Common	27,000,000
Total	$27,000,000

RIORDON PULP & PAPER COMPANY

Preferred, 7 per cent	$ 1,500,000
Common	6,000,000
Total	$ 7,500,000

Duplication in Holdings

It should be pointed out that the aggregate of these two groups, which would amount to $54,500,000, does not altogether represent separate holdings, for there is a certain duplication.

Shortly before the old Riordon common stock reached its high level of $226, an arrangement had been agreed to by the Board whereby the holders of the $1,500,000 of 7 per cent. preferred were to receive a similar amount of 8 per cent. first preference of the Riordon Company, while the $6,000,000 of common stock was to be exchanged for the following:

$ 9,000,000 2nd Preference, 7 per cent.
12,000,000 Common Stock.

Hence in the capitalization of the new company, provision had been made for the exchange of securities from the old company, so that in reality the actual amount wiped out has been the $10,000,000 of 1st. preference 8 per cent., for which very nearly $10,000,000 cash was paid in by investors; the $19,000,000 of 2nd preference, of

which $9,000,000 was to go to the common shareholders of the old company, and $1,000,000 as a commission, and the $27,000,000 of common stock, a portion of which went as a bonus with the 8 per cent. preferred.

Stock Once Sold in Excess of $150

The market value of the $6,000,000 old Riordon stock at one time stood at $13,560,000, and much of the stock was purchased at above $150 a share, the belief being that it would reach $300. Even the new Riordon Company's common stock, a portion of which went as a bonus with the 8 per cent. preferred, for a time was selling at $50 a share. For a long time the old Riordon stock was "pegged" at around $119 a share, and as it was paying 10 per cent. it held above par for many years, the Company being one of the most prosperous concerns in the country.

Of the $7,302,500 purchase price, $4,487,000 will go to pay off obligations chiefly connected with the Riordon Pulp Corporation, which has been operating the mills for over two years. In addition there are other obligations which it is understood will make a total of over $6,000,000, so that the Riordon Company, in return for the 8 per cent. bonds, which will disappear, will have probably less than $1,000,000 of the purchase price. The bonds themselves amount to $5,930,000, and in addition there is accrued interest of $869,000, representing a total of $6,700,000. In supplying the purchase price the bondholders do not secure the properties free of incumbrances. In addition to the $4,487,000 owing the Riordon Pulp Corporation, there is an amount of about $3,500,000 still owing in connection with the purchase of the Gatineau limits, and there are other obligations in connection with the Kipawa mill. In taking over the second block of property, namely the Hawkesbury and Merritton mills and the Quinze limits, the bondholders assume an obligation of $1,828,800 of the first mortgage bonds and various debts.

The interest on the first mortgage bonds has been maintained, otherwise the first mortgage bondholders would have been in a position to foreclose.

Seattle Paper Firms Merge

[FROM OUR REGULAR CORRESPONDENT.]

SEATTLE, Wash., September 15, 1924.—With a new capitalization of $650,000 the Mutual Paper Company has purchased the American Paper Company and will combine the two paper stocks to form one of the largest wholesale paper houses west of Chicago, according to announcement yesterday by Ralph H. Miller, president of the purchasing company.

The American Paper Company will retire from business December 1, the Mutual Company taking possession of the American Company's location at Atlantic and Utah Streets.

The main offices and warehouse stocks of the Mutual Company will be moved from 909 Western Avenue to the Utah Street quarters but an uptown salesroom will be maintained somewhere near the Western Avenue district.

The American Paper Company is one of the pioneer firms of Seattle in its line. It was established in 1900 and has been affiliated with the Blake, Moffit and Towne interests, who have been active on the Pacific Coast for many years.

The Mutual Paper Company was organized in Seattle in 1908 and has distributed for the Butler Paper Corporation, of Chicago. It has also maintained a complete line of coarse papers. With acquisition of the American company, the Mutual Paper Company will now distribute a line of cordage and rope.

Officers of the reorganized Mutual Paper Company, are announced as Ralph H. Miller, president; J. L. Murray, vice president and manager; E. H. Pope, secretary, treasurer; J. W. Thompson, assistant manager and Lewis C. Connor, assistant manager and sales manager. A. B. Galloway, manager of the American Paper Company will leave Seattle as soon as his affairs will permit, probably early next year according to the announcement. He plans a tour of the Orient where he has interests.

Plenty of Work for Import Committee

The Import Committee of the Paper Industry is getting deeper into its work and as time goes on the opportunities for its efforts widen and the members of the committee find it necessary to give more time and closer attention to the colossal problems which they have undertaken to solve.

Three meetings in eight days is the new record they have set for themselves. The committee met last Thursday at the headquarters of the American Paper and Pulp Association and this session was followed up by another meeting of the New York members of the committee held this week, Tuesday, while still another meeting is scheduled for today.

The paper industry certainly owes a debt of gratitude to these men who are bearing the brunt of the work, who are shaping the program to be carried out and who are giving so much of their time that the whole industry may be benefited by the establishment of more rigid regulations regarding the entry of European paper products into this country. As an evidence of the whole-hearted manner in which they are doing their work it may be said that every member of the committee was present at last Thursday's meeting and that the attendance at all meetings up to the present time has been very near 100 per cent.

Little news for the general public has come out of the more recent conferences. The committee has reached the point where the plan of financing the proposition is taking a good share of its attention. This was practically the sole subject for discussion at last Thursday's meeting although some future activities of the committee were discussed and various phases of the work casually talked over.

While nothing is disclosed at this time regarding the plan of financing it is understood that a feasible plan has been arrived at and that assurances have already been received which indicate that the committee will not be doomed to disappointment.

Tuesday's meeting was attended by the New York members of the committee and was for the purpose of taking up some matters which will be laid before the entire committee at the meeting today. President Henry W. Stokes of the American Paper and Pulp Association showed his interest by being present.

Already the paper industry has been given several opportunities to see the possibilities in the work of the committee and to appreciate how the industry as a whole can be benefited by its functioning. That better understanding is growing all the time with the result that some who were lukewarm in the beginning and inclined to be skeptical are now enthusiastic and disposed to lend their support in any way possible.

Union Bag & Paper Corp. Passes Dividend

The Union Bag and Paper Corp. last week passed the quarterly dividend of $1.50 on capital stock due at this time. The dividend rate has been six per cent annually since the beginning of last year. In explanation of the passing of the dividend, the directors at a meeting held last Thursday issued the following statement:

"At the board meeting today it was decided that it would be to the best interests of the company not to declare the current quarterly dividend. To do so, would require that such a dividend should be paid out of surplus as current earnings are inadequate.

"For some time competition has been abnormally severe, due in large part to extremely low priced foreign made raw materials.

"Consumption of the company's products is increasing and new orders are being received proportionately. As the demand increases prices should advance and the outlook for business in the future is much more encouraging than at any time this year."

Albemarle Paper Co. Increases Stock

RICHMOND, Va., September 15, 1924.—The Albemarle Paper Manufacturing Company has filed an amendment to its charter increasing its maximum capital stock from $1,000,000 to $2,000,000.

STEADY IMPROVEMENT SEEN IN CHICAGO PAPER MARKET

Fine Papers Are Enjoying a Vastly Better Call and Buyers Are Beginning to Place Orders for the Future—Price Advances on Many Items of Paper Stock—Preparations Being Made for Semi-annual Meeting of National Paper Trade Association to be Held October 13, 14 and 15—C. R. Shepard Joins Staff of Bermingham and Prosser Co. to Cover Chicago Territory.

[FROM OUR REGULAR CORRESPONDENT.]

CHICAGO, Ill., September 15, 1924.—Steady improvement sums up this week's changes in the local paper market, bringing a situation which is very gratifying to every one interested in it for his livelihood. In all lines of fine papers business booked is rapidly taking on bulkier volume. It is clearly in evidence that orders held off during the summer months are now finding their way to the books of the merchants.

Prices reflect the situation more surely than anything else. They have firmed up noticeably of late and while there have been no changes in f.o.b. mill quotations up to the present time, there are rumors to the effect that sulphite bonds are due for an upward turn. Concessions have practically disappeared and special prices are fast going the same way. Mills are getting orders ahead and even now report from four to five weeks' business on hand.

While there seems to be plenty of money circulating in the middle western territory, collections are not being made as promptly as is desired. As a matter of fact, printers generally lack money to meet current obligations. Their business has not been active over the summer and they have been able to prepare for the Fall. They have not been able to establish credit ratings at local banks here either. Therefore, they are pretty hard hit and must depend upon the paper merchants with whom they have been doing business over a period of time to extend them credit.

Gibson Says Coarse Market Is Improving

The exact condition of the coarse paper market, as seen by George K. Gibson, sales manager for this territory for the Wausau Sulphate Fibre Company, makers of Mosinee kraft, is summed up by him in these words:

"So far as the coarse paper branch of the industry is concerned it can be said that the market is appreciating. Not only that, but the outlook is decidedly promising for a long, continued period of active buying on the part of consumers. An increasing number each week are buying in considerable volume and the situation is changing from a buyer's to a seller's market.

"Several of the prominent mills withdrew current prices last week, which is an indication of increases on every one's products. Kraft pulp had an advance of from $3.00 to $5.00 per ton in the last 30 days which, of course, is one reason for the upward trend in quotations, f.o.b. mill. The box board market had a very marked and rapid advance with buyers seeking cover. What has happened there will shortly come to pass in the sulphate division of the industry."

Better Demand and Higher Prices on Toilets

That condition of the market for which toilet paper factors have waited during the entire summer is now being realized. Demand is running nearer to high now than it has for some months. Up until the middle of August conditions were very unsatisfactory both as to demand and price. But about that time an improvement was noted. In the meantime the market has firmed up greatly and it has all the appearance of continuing so for the balance of the year. It is said by those handling toilet papers that if present demand continues at prevailing prices they will be able to make a little profit.

More Advance on Paper Stock

As indicative of the paper stock market and the change it has experienced of late it can be said that prices of nearly all items climbed another step higher this week. This brings all of them up to a point which represents a high figure over six months or more. Higher grades made the biggest increase because within the past few weeks lower grades were doing most of the advancing. Now it is their turn. Demand has grown by leaps and bounds with board and container mills buying generously. Another factor in the higher prices is the scarcity of paper stocks to fill the requirements of manufacturers. When prices began to rise about three weeks ago it was stated by paper stock dealers here that it would require about 60 days at least to build up accumulations to a point anywhere near what would be necessary to fill current orders.

National Paper Trade Prepares for Semi-Annual

Preparations are fast going forward for the semi-annual meeting of the National Paper Trade Association, which will take place at the Drake Hotel, this city, for three days, October 13, 14 and 15, according to Charters K. Higgins, of the association headquarters here. It is planned at this meeting to take up many of the questions confronting members of the trade at the present time. Besides the business sessions there will be entertainment features of various kinds.

C. R. Shepard Now with Bermingham & Prosser

Another change in the industry here which concerns a prominent trade figure is the announcement by C. R. Shepard of his connection with the Bermingham and Prosser Company, paper merchants, with offices in the new Burnham Building. Mr. Shepard recently made this change. He will do sales work for the firm in the Chicago territory. For 25 years previous to his coming to Bermingham and Prosser, Mr. Shepard was identified with the J. W. Butler Paper Company, of this city, in the sales department. During that time he has become well known among paper consumers of the Windy City.

Bids for Government Paper

WASHINGTON, D. C., September 17, 1924.—The Government Printing Office has received the following bids for 16,000 lbs. green manifold bond paper, 21 x 32—16, No. 9: American Writing Paper Company, 24 cents per pound; R. P. Andrews, 21.84 cents per pound; Dobler & Mudge, 22 cents per pound; Reese & Reese, 26.995 cents per pound; Old Dominion Paper Company, 21.999 cents per pound; Barton, Duer & Kock Paper Company, 21.75 cents per pound; Whitaker Paper Company 24.67 cents per pound; Virginia Paper Company, Inc., 21.66 per pound; Samuel Alcorn 36 cents per pound; Broderick Paper Company 26.56 cents per pound. Also The Government Printing Office has received the following bids on 2,000 manila filing jackets, 4⅛ x 9½ inches, weight 17 x 22, 500—32; United States Envelope Company 6.20 per M; Mathers Lamm Paper Company, 7.50 per M; R. P. Andrews Paper Company, 8.45 and 12.48 per M.

The Printing Office will receive bids on September 24, for 3,000 lbs. of 21 x 32—14½ No. 8 onion skin paper.

The Government Printing Office has received the following bids for 50 reams 25½ x 34 inch white medium high finished chemical wood ledger: Carter Rice & Co. at 12.5 cents per pound; American Writing Paper Company at 9.1 cents and 8.97 cents.

The Government Printing Office will receive bids on September 24 for 36,000 pounds of pink bristol board in 20 inch rolls. Bids will also be received on the same date for 15,680 pounds (80 reams) of ash gray and buff railroad board, 22 x 28—196, and for 4,000 pounds of kraft wrapping paper in 36 inch rolls.

ORDERS MORE PLENTIFUL IN TORONTO PAPER MARKET

Decided Improvement Has Been Noted in Business During the Past Few Days—Continental Wood Products Co. to Erect New Kraft Mill—Seventh Annual Meeting of Canadian Paper Trade Association to Be Held Next Month—Much Criticism of Long Price List Adopted by Paper Jobbers—New Storehouse of Provincial Paper Mills Co. Completed—Notes and Jottings of the Industry.

[FROM OUR REGULAR CORRESPONDENT.]

TORONTO, Ontario, September 15, 1924.—The paper trade has picked up considerably during the last few days and orders have been coming in more freely. Whether this change means a continuous improvement in business or is only a temporary spurt cannot as yet be determined but, certain it is, that the jobbers are feeling considerably better than they have for some time. There has been a heavier demand for light weight papers which are bought chiefly by industrial concerns, and wall paper manufacturers are also busy calling for a good deal of stock from the mills in the hanging paper line. Tonnages have thus been increased quite a bit to the satisfaction of the mills, while toilet, tissue and specialty plants have speeded up production a good deal. Some recent shipments of esparto paper received from Great Britain have caused, it is said, large printing establishments considerable dissatisfaction owing to the edges of the paper, on exposure to the light, becoming discolored and in some cases shipments have had to be replaced by consignments from Canadian mills.

There have been some changes in the price of board. Chip board has been advanced by the Canadian mills from $55 per ton to $65 and white vat lined board from $65 to $75. The raise of ten dollars a ton on these lines restores them to their old quotations which were reduced some time ago to meet competition from across the border. The sale of imported chip and white vat lined boards from outside mills has ceased to a large extent and business with the Canadian mills is now getting better.

There is also quite an improved call for kraft paper which is bringing $7. for machine finish and $7.15 for glazed. Kraft pulp is selling at $65. at the mill and there is a firming up in the pulp market generally, ground wood moving at $30, bleached sulphite at $80 and unbleached at $60.

New Kraft Pulp Mill at Elsas

The Continental Wood Products Company, of Elsas, Ont., of which L. E. Bliss is Vice President and Manager, will erect a new, one hundred ton kraft pulp mill but construction will not start until next spring. The company is preparing the ground and has to clear away some four hundred acres of timber and slash before putting building material on the site. The clearing is being done to protect the mill from bush fires and thus remove all hazards from conflagrations. The company has completed its obligations with a band of Indians at Elsas and has built a home for each member and recently finished the church, all of which was in the agreement with them. The Indians have now settled in their new houses and are well pleased with the change.

Canadian Paper Trade Convention

The seventh annual meeting of the Canadian Paper Trade Association will be held in Toronto at the King Edward hotel on Tuesday and Wednesday, October 21 and 22. Secretary N. L. Martin, of Toronto, in calling the gathering, points out to the members that if the demand for the products, in which the wholesalers deal, has been somewhat lessened in volume, there are present indications of an early improvement in this regard and the members are urged to avail themselves to the fullest extent of the opportunities afforded by the organization to have the business that is available conducted along proper and profitable lines. W. C. Ridgway, of New York, Secretary of the National Paper Trade Association of the United States, will be invited to attend. Mr. Ridgway has on other occasions been present at the conventions of the Canadian Paper Trade Association and has always been extended a most cordial welcome.

Long Price List Discussed

The long price list, which was adopted by Toronto, Montreal and other paper jobbers some two years ago, is coming in for considerable criticism and discussion. At a meeting of the Ontario section of the Canadian Paper Trade Association held in Toronto recently, the matter again came to the front and will be referred to the annual meeting of the Canadian Association. Country printers are particularly opposed to the long price list and are once more anxious for a net list. It is also contended that, besides a large amount of clerical work necessary to carry it out, the list is militating against the sale of high class book and writings and is adversely affecting the trade in other ways.

Provincial Co. Completes New Storehouse

The Provincial Paper Mills, Toronto, has completed a large new storehouse at its Mille Roches division. The new building is grey stone, 60 x 120 feet, three stories high, and will be used for housing pulp, china clay and other raw materials. A new steel and gypsum roof has been put on the beater room in which considerable new equipment has been installed. The company has spent about $100,000 in improvements and its program of extension is now complete.

Notes and Jottings of the Industry

H. B. Donovan, sales manager of the Canada Paper Company, Toronto, spent the past week in Montreal on business connected with the branch of the company in that city.

E. Pullan, Canada's Waste Paper King, and Mrs. Pullan, Toronto, are enjoying a motor trip to Mount Clemens, Mich. Harry Pullan has returned from spending his vacation at the Bigwin Inn, Muskoka Lakes.

R. I. Finlay, Toronto, Vice President of the Canadian Paper Trade Association, and Mrs. Finlay are enjoying a motor trip to Boston, New York and other points east. Mr. Finlay will attend the annual gathering of the representatives of the Crocker-McElwain Company at Holyoke, Mass., on September 22 and 23.

The Hodge-Sherriff Paper Company, Toronto, has opened a branch office in Montreal in the Insurance Exchange building, St. James street, in order to look after the eastern interests of the firm.

Buntin, Reid Company, Toronto, have received their first shipment of "Dixotype" Dry Flong from Great Britain, which is being used largely in modern newspaper offices, which, in many cases, find it to their advantage to use dry mat instead of the wet process.

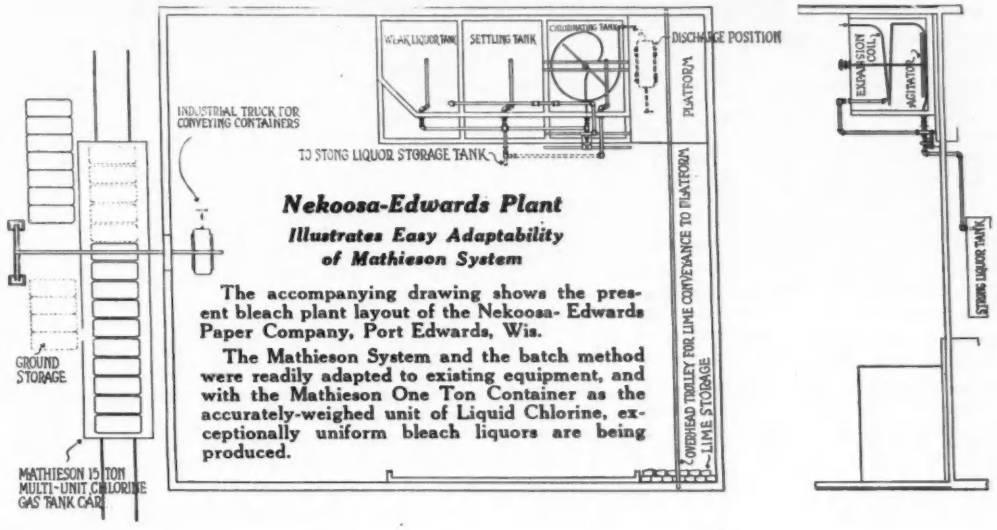
Gordon Blanchard, representing the Crocker-McElwain Company, and the Chemical Paper Manufacturing Company, Holyoke, Mass., was in Toronto recently calling upon the trade.

The replacement of the old Bell Telephone books in Toronto by a new issue yielded one hundred tons of old paper to waste paper collectors and a new catalogue, which was lately issued by a local department store, added some thirty-six tons in trimmings to the amount available for paper mills.

United Paper Mills, Toronto, have been doing some very attractive advertising in beautifully illustrated samples of Featherweight Book, Economy, M. F., Catalogue Book, Keystone, M. F., Superior, S. C., Tinted S. C. and Progress Brand Offset and also by sending out printed Lodestone Covers in four new colors, ruby, cobalt, pyrite and argilite.

The Rolland Paper Company, Toronto, has sent out to the trade a type chart for printers on superfine linen record whereby the number of words to fill any given space can be calculated in a few minutes. The new chart is quite a novelty and is proving very convenient.

MATHIESON System

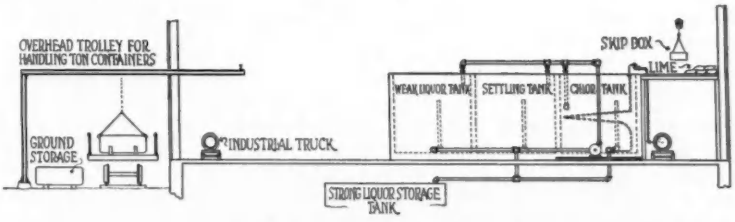


Nekoosa-Edwards Plant

Illustrates Easy Adaptability of Mathieson System

The accompanying drawing shows the present bleach plant layout of the Nekoosa- Edwards Paper Company, Port Edwards, Wis.

The Mathieson System and the batch method were readily adapted to existing equipment, and with the Mathieson One Ton Container as the accurately-weighed unit of Liquid Chlorine, exceptionally uniform bleach liquors are being produced.



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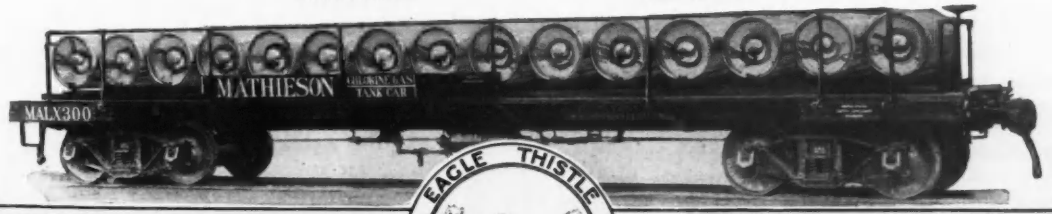


Deal Direct with the Manufacturer

Bicarbonate of Soda
Liquid Chlorine-Caustic Soda

EAGLE THISTLE PRODUCTS

Sesquicarbonate of Soda
Bleaching Powder-Soda Ash

HEAVY ARRIVAL OF RAGS AND WOOD PULP IN BOSTON

Demand For Paper Continues To Improve and Orders Increase in Size — Conditions in Kraft Lines Not Good With Rumors of Low Prices Disturbing the Market — Paper Men Show Interest in New England Week — Crocker, McElwin Co. and Chemical Paper Mfg. Co. To Hold "Mill and Merchants' Conference" — John Carter & Co., Inc., Buys Property for Additional Shortage Purposes.

[FROM OUR REGULAR CORRESPONDENT.]

BOSTON, Mass., September 15, 1924.—The scarcity in rags which has existed for some few months has been noticeably relieved by the large imports received this week. The arrivals are the heaviest in several months and as will be seen, are fairly well distributed among the paper making centers. There was also a very large importation of wood pulp, the arrivals exceeding any for some time.

Orders More Plentiful

Jobbers report continued increase in orders and one large house reported that the orders received were not only increasing in number but were considerably increased in quantity as well.

Difficulty in Getting Rags

Manufacturers who are making rag stock papers are having not a little difficulty in getting sufficient supply of rags. Rags are scarce and desirable accumulations are quickly grabber up. Domestic rage are almost out of the market for the reason that the cutting factories are not busy and cutting scrap is limited. The usual accumulations from junk dealers are far below normal and for a very peculiar reason. There is a much greater use for old rags in the home than ever before. It is a fact that automobiles in the hands of private owners consume rags faster than they are accumulated by the average household.

Rags with grease or oil on them are useless for paperstock and while they may eventually find their way into a rag bag and while they may even be washed and sold to printers, etc., it is much more likely that the user of the rag about his car will throw it down by the roadside or burn it up with the rubbish in the incinerator or in the kitchen stove.

Imported Rags Also Scarce

Imported rags also are scarce and for the very reason that most of the common people across the water are in poverty. The old rags are used to piece out the remaining parts of garments. An authority who has been abroad states with a knowledge of the facts that many rags which formerly were collected and which found their way to this country are now utilized as pieces of clothing or are rewoven into useful articles of apparel or housefurnishing.

August has seen a number of conferences at various mills and September will see several also. This get together spirit has done much to improve conditions in the paper industry.

Interest in New England Week

New England week is to be held in Boston and elsewhere, and particular attention will be given to displaying lines made in New England. Stores and windows show attractive displays of all kinds of merchandise and the paper trade is not behind in these displays. The Eastern States Exposition at Springfield, Mass., this week is typical of this effort.

Kraft Situation Unsatisfactory

The outstanding weakness of the week is the very unsatisfactory condition of the kraft paper industry. Your correspondent saw this week a letter from a well known mill stating conclusively that they were going out of the kraft paper lines and would accept no further orders when present obligations had been filled. This was plainly not a bid for rush orders but was a positive and deliberate suggestion that the kraft paper line offered no inducements at this time in the way of profits. This particular mill made other lines and could no doubt turn its machines over to the other lines but it must be admitted that one does not go out of any line without very great reasons. Kraft papers are being offered in this market at very low prices and there have been considerable importations of kraft which have further unstabilized the local market.

General News of the Boston Trade

The General Conference of the Crocker McElwain Paper Company and the Chemical Mfg. Paper Company will be held in Holyoke this coming week on September 22 and 23. Quite a few Boston paper men will attend. The conference is styled "the Mill and Merchant Conference."

H. P. Parks representing the Holyoke Card and Paper Company of Holyoke, Mass., was in Boston the past week and reported business as good.

E. C. Walker, sales manager for the Collins Paper Company of Holyoke was among the Boston trade this week.

J. C. Kennedy, secretary of the Carter Rice & Co., corporation has just left for a two weeks vacation.

C. W. Fields, vice president and sales manager for Baird & Bartlett, Boston, has been among the New York and Philadelphia trade for the past ten days.

John Carter & Co., Inc., has purchased adjoining property to its building on Atlantic avenue and will remove the entire Dill & Collins line to these new rooms, from 161 Pearl street to the new warerooms on Atlantic avenue. The firm will retain the Pearl street loft, however, for additional storage space. It is to be hoped that the greater convenience which will be afforded by this change will still further accommodate the many users of Dill & Collins lines.

S. W. Row, representing the Paper Manufacturers Educational Association, Inc., which company is introducing the new 100 per cent rag stock paper will begin an educational campaign on this line in the New England field during the coming week. It is planned to visit the users of high grade papers and demonstrate the peculiar merits of this all rag paper.

Roger A. Fuller representing the Gilbert Paper Company of Menasha, Wis., is in the New England field in the interests of the company's well known lines of bond and ledger papers.

The little flurry in paper box industry has resulted in the accumulation of paper box cuttings to such an extent that several offerings have appeared in the local market the past week at fairly low prices. The mixed paper market has been around $16.00 per ton but these cuttings were bought at about $3.00 per ton below that price.

Paterson Parchment Paper Co. Files Complaint

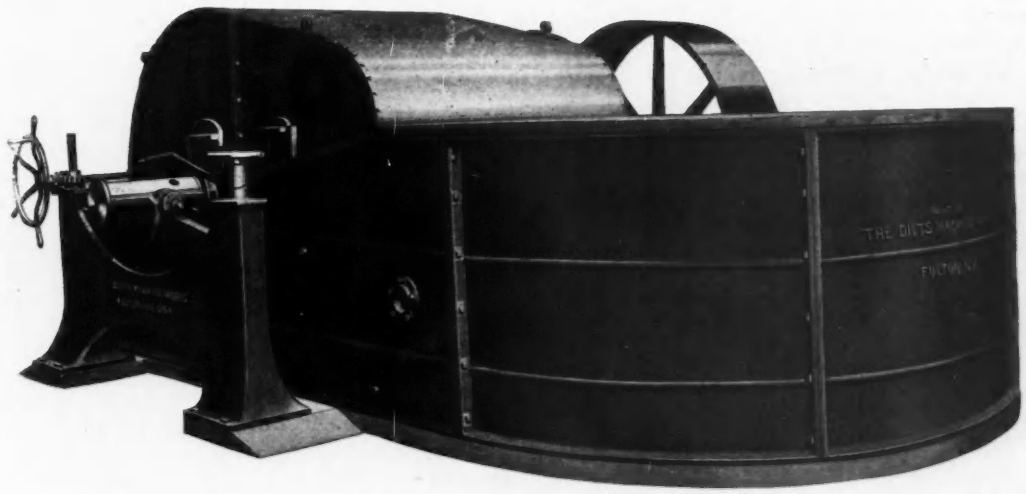
[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., September 17, 1924.—The Paterson Parchment Paper Company of Passaic, N. J., has filed complaint at the Interstate Commerce Commission against the Erie R. R. and others.

The company sets forth in the complaint that during August, 1922, it shipped from Dundee, N. J., to Chicago, Ill., and St. Louis, Mo., 7 carloads of vegetable parchment wrapping paper and wrappers, the total weight of which was 503,017 pounds. The freight charges were assessed on the shipments on the basis of 5th class rate of 66 cent to St. Louis, and 56.5 cents Chicago for 100 lbs. The complaint alleges that the rates were unreasonable in that they exceed the 6 class rates of 55.5 to St. Louis and 47.5 to Chicago, in effect on oiled or waxed wrapping papers.

The complaint asks that reparation be made in the sum of $469.81 plus interest.

Dilts-



"YOUR PAPER IS MADE IN THE BEATERS"

Has it ever happened to you?

PAPER machines running at high speed, beaters operating to capacity. Your mill is operating smoothly, profitably and at high efficiency.

Then, somebody notices that the stock chest is low. It is necessary to slow up the paper machines to keep from exhausting the chests and from shutting down altogether.

This slow-up, of course, means less production and no profits. It costs just as much to run a paper machine at low speed as it does at high speed.

The answer is—It pays to have ample beating capacity. Oftentimes the installation of one more Dilts Beater will enable you to operate profitably at all times.

If you are interested in more and better paper, lower costs and less lost time we suggest that you write us for information.

Dilts

7103

MACHINE WORKS, Inc. FULTON, N.Y.

EXPORT OFFICE ~15 PARK ROW~ NEW YORK CITY

PHILADELPHIA TRADE GAINS AS VACATION PERIOD PASSES

Business Shows Greatest Improvement in Jobbing Circles and Political Campaign Helps Out Printers—A. S. Datz Concern to Issue House Organ Devoted to Paper Box Supply Trade—H. L. Hulett Promoted to Position of General Sales Manager of A. M. Collins Manufacturing Co.—Charles F. Hubbs & Co. Occupies New Offices—Japan Paper Co. Features Several New Lines.

[FROM OUR REGULAR CORRESPONDENT.]

PHILADELPHIA, Pa., September 16, 1924.—The tide of post-vacation season business is now running uninterruptedly and quite strongly, and the very satisfactory feature is that at least in jobbing circles, it is steadily increasing. Curiously enough, however, almost an opposite condition exists in the paper stock market. In late August days the packers particularly of old paper, were quite elated at the activity evidenced and, though it was unexpected and largely unexplainable, it was none the less gratifying. While there was nothing like a drop in prices there was a general easing off, so that at the beginning of the present week the gain of late August has been lost and prices and market conditions are virtually the same as they were then. However, there is not even an approach to pessimism.

Improvement in Fine Paper Looked For

Presidential campaign activities already have given a little impetus to the printing trade and this immediately was reflected in paper circles. No printer is carrying any amount of stock on his shelves and the day after he gets an order the paper jobber is called on to supply requirements. The trade counts on a steady improvement of the fine paper business.

A. S. Datz & Son Issue House Organ

For the first time in the history of the local paper trade there is to be issued a house organ devoted exclusively to the paper box supply trade through the plan of A. S. Datz & Son, 26 S. Marshall street, to send out monthly a special booklet devoted exclusively to papers, market prices and current information on box makers' supplies. The new organ will supplement the monthly special booklet devoted to the printing paper department and containing matter pertaining to the various lines distributed the Datz concern. It will contain a complete list of cover papers, card boards, and other papers for this class of trade and keeping the box makers posted on stocks on hand. The Datz company is the oldest box supply house in the Philadelphia trade and has at its head John Datz and it is the intention of Mr. Datz to send out a comprehensive sample assortment showing the large range of selection for its box papers.

Judd Paper Company Acquires Offices

The Judd Paper Company of Holyoke, Mass., has taken a Philadelphia office in the building 136 S. 4th street. The Quaker City branch is under the management of Edward Battersby who comes to Philadelphia from the main offices in the Massachusetts paper manufacturing center.

Schuch Machine Company in the South

A new Southern plant has been acquired by the paper converting machine manufacturing company, long established in Philadelphia as the Schuch Machine Company, 235 New street, The Southern plant will be given over to the construction of converting machinery and its repair department will look after the trade work in that territory. The new quarters at 391 Marietta street, Atlanta, Ga., are under the management of A. P. Greenwood. The Schuch Company, manufactures cutters, winders, slitters and a line of box makers' equipment.

The company also is Philadelphia distributor of the John T. Robinson Company of Hyde Park, Mass. The head of the firm is Cornelius F. Schuch.

Melchior Company's New Radio Condenser

The Melchoir Paper Company, No. 7 Drexel Building, announces the development and perfection of a new paper, known as the Dia-Foil, which is being used in Radio Condensers and for numerous other electrical purposes. Dia-Foil has many possibilities and can be made to meet specific requirements of the manufacturer and consumer.

H. L. Hulett, Sales Mgr. of A. M. Collins Co.

Promotion of H. L. Hulett, to the position of general sales manager of the A. M. Collins Manufacturing Company, 3rd street and Columbia avenue, follows his association with the firm of more than nine years. Mr. Hullett succeeded Sherman Winslow who has been assigned to the management of the New York offices while J. C. Gilmore, formerly Metropolitan manager, is now on the Pacific Coast with headquarters in San Francisco. He will take care of the Coast trade requirements for the Collins specialties of card board, cover papers and photo mounts. Previous to becoming general sales manager, Mr. Hulett was sales manager of the box paper department.

Charles F. Hubb & Co. in New Offices

Owing to the sale of the building formerly occupied as offices by Charles F. Hubb & Co., at 403 Sansom street, the Philadelphia branch has been removed to 119 S. 4th street. The local headquarters are under the management of R. E. Petersen who takes care of territorial sales of the Hubb lines of coarse papers. The Hubb Company main offices are at 383 Lafayette street, New York, where the company acts as mills agents for a large number of manufacturers of coarse papers and specialties.

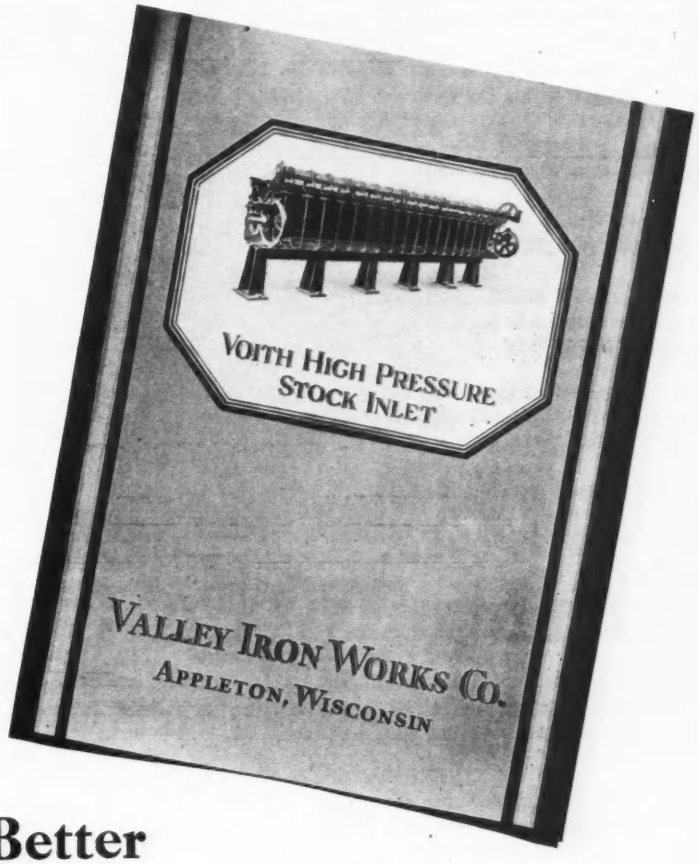
Japan Paper Company New Lines

Among the imported papers featured by the Japan Paper Company, with offices in the Witherspoon Building are three new specialties of French manufacturers adapted for papeterie or high grade writing, engraving and printing papers. They are the Grenible, in grey, blue, white and lavender; the Velin in blue, violet and lilac and the Chatalaine in white and ivory. Another product of imported stocks is the tieing tape in orange and black combination, packed in cartons of ten, made in Japan for which the Japan Company is exclusive distributor. Vice-President Thomas Nast Fairbank of the Japan Company, leaves this week for a trip to Japan where he will visit the company's warehouse and sales and purchasing headquarters in Yokohama, recently reconstructed following their destruction in the earthquake, and where are tested, graded and packed for exportation all the Japanese paper specialties distributed by the company in these and other markets. Sales Manager George A. Nelson has returned from the Advertising Men's Convention in London and a tour of Europe. The new importations which are to come from Japan, French and other foreign makers are distributed in the local district under Manager Warwick C. Miller.

N. T. Barry Opens New Office

Specializing in the distribution of toilets and paper napkins and other specialties of this type, N. T. Barry, has acquired offices in the building at 1011 Chestnut street. Mr. Barry is well known to the trade, having formerly been engaged in the manufacturing of toilets and napkins with a plant at 40th and Washington streets, along the Pennsylvania Railroad. He retired from the manufacturing business just a few years ago, the old plant having been disposed of by sale.

Mr. Barry will conduct a mill representation business.



This Booklet *tells* How *to* Make Better Paper *at a* Lower Cost

Your copy is waiting for you. Write for it today. It describes in detail the Voith High Pressure Stock Inlet, a new piece of equipment that makes possible a sheet of paper of uniform caliper and of much better formation than you ever before produced. This improved product can be produced at a lower cost.

The booklet contains proofs of these statements. Do not fail to get your copy. A letter will bring it to you.

VALLEY IRON WORKS CO.

APPLETON, WISCONSIN

New York Office: 350 Madison Avenue

New York Trade Jottings

The Tidewater Paper Mills Sales Corp. has increased its capital stock from $200,000 to $300,000.

* * *

The Crescent Paper Butter Dish Company has changed its name to Crescent Paper Dish Company.

* * *

M. L. Smith, of the New Print Service Bureau visited Washington on business during the week.

* * *

Frank L. Moore, of Watertown, N. Y., was among the trade visitors in town during the week.

* * *

Elwood Wilson of the Forestry Department of the Laurentide Company, Grand Mere, Que., was in New York this week.

* * *

During the five months ended June 30, the Continental Paper and Bag Mills Corp. made net earnings of $200,561 after expenses, depreciation and interest.

* * *

W. J. Raybold of the B. D. Rising Paper Company, a former president of the American Paper and Pulp Association, was a visitor in New York city last week.

* * *

The Imperial Paper Box Corporation, Brooklyn, has filed notice with the Secretary of State at Albany, N. Y., of an increase in its capital stock from $10,000 to $125,000.

* * *

C. H. Kent, who was for some time general sales manager of the Papermakers' Chemical Company, has resigned to go with the Kalbfleisch Corporation of 200 Fifth avenue.

* * *

W. F. Brunner of the Paterson Parchment Paper Company has returned from a several months' visit to Alaska and is entertaining his friends with many interesting experiences, including the difficulty of Alaskan travel, etc.

* * *

Jacob J. Modansky, paper and twine dealer, 72 Greene street, has filed a bankruptcy petition showing his liabilities to be $13,642 with no assets. Principal creditors are Henry Edelstein, $2,424; Whiting-Patterson Company, $2,737; Syrkin & Back, Inc., $2,200.

* * *

The Salesmen's Association will hold a luncheon at Hotel Belmont next Monday. They have nothing special on their program, the meeting being devoted to one of their usual round table discussions. The first Monday in October the salesmen will return to their weekly schedule of luncheons.

* * *

In its issue of Tuesday, the *Wall Street Journal* said: "International Paper Company's bank loans at the end of August were slightly less than $7,250,000, showing a shrinkage of over $4,500,000 since the first of the year. Balance sheet as of December 31, 1923, showed notes payable of $11,760,000. The $7,250,000 figures at the end of August compares with $7,700,000 at the end of July. A further reduction in loans will probably be made during the current month. International Paper's notes payable reached a high point at over $16,000,000 at the end of 1921, the first of its two years of heavy losses. The next year saw a reduction to $12,600,000, and since then there has been a steady downward trend."

Box Board Men to Meet October 8

CHICAGO, September 17, 1924.—The next regular meeting of the Box Board Association will be held at the Drake Hotel at 10 o'clock Wednesday morning, October 8.

Recent Incorporations

SEAMAN CONTAINER MANUFACTURING CORP., O.5(&, New York, 2,000 shares preferred stock, $100 each; 5,000 common, Class A, $1 each; 15,000 common, Class B, $1 each; active capital, $220,000; G. M. and J. Seaman, E. B. Van Atta. Attorney, F. J. Knorr, Albany.

O-PEN BASKET CORPORATION, Manhattan, New York, paper boxes, 100 shares preferred stock, $100 each; 800 common, $50 each; active capital, $50,000; Incorporators, R. M. Oliver, J. W. Harlow, G. R. Penn. Attorney, C. P. Lothrop, 116 West 45th Street, New York.

WEST COAST PULP AND PAPER COMPANY, Olympia, Washington. Capital, $1,250,000. Incorporators, John McNary, H. S. Gile and William H. Trindle, all of Salem, Ore., and Virgil Baker, Olympia.

CINCINNATI PRINTING AND PAPER PRODUCTS COMPANY, Cincinnati, Ohio. Capital, $10,000. Incorporator, Frank H. Blythe.

JAMES CARRANO'S SONS, Manhattan, New York, paper stock and mill supplies. Capital, $30,000. Incorporators, J. V. and M. and N. R. Carrano. Attorney, L. Sacks, 186 Joralemon street, Brooklyn.

NASHUA PACKAGE SEALING COMPANY, Boston and Nashua, N. H.; paper and package sealing machinery. Capital, $10,000; incorporators, Eliot A. Carter of Nashua, N. H., Hubert L. Carter of Newton and George H. Lowe of Wellesley.

BAKER PAPER COMPANY, St. Louis, Missouri, $50,000. Buy, sell, manufacture, handle and deal in paper, paper products, supplies and kindred lines. Incorporators, P. H. Baker, R. G. Baker, W. P. Reagan, E. B. Bassitt, William T. Jones, all of St. Louis. Attorneys, Carter, Nortoni & Jones, 314 North Broadway, St. Louis.

The KENYON PAPER BOX COMPANY, 320 High street, Burlington, New Jersey. Manufacture of paper boxes and other paper products. Capital, $100,000.

GOLD-BAR MANUFACTURING COMPANY, Manhattan, New York, make paper boxes. Incorporators: M. Cohen, C. Schatz. Attorney, I. I. Haber, 299 Broadway.

W. H. Caswell Joins Roller Co.

WILKES-BARRE, Pa., September 8, 1924.—W. H. Caswell, long identified with the merchants in Northeastern Pennsylvania, having catered to them for a quarter of a century, has associated himself with the fast growing Roller Paper Company at Wilkes-Barre. Mr. Caswell, for the past several years, represented Megargee Brothers. Mr. Caswell will act as a special representative in the distribution of the Roller Company's favorite specialty "Marko" 30 lb. Butchers Paper and Endura Kraft, of the Orono Pulp & Paper Company and also King William of the Nekoosa-Edwards Paper Company, for whom the Roller Paper Company is the sole distributor in this territory.

Union Bag & Paper Corp. Conducts Salesmen's School

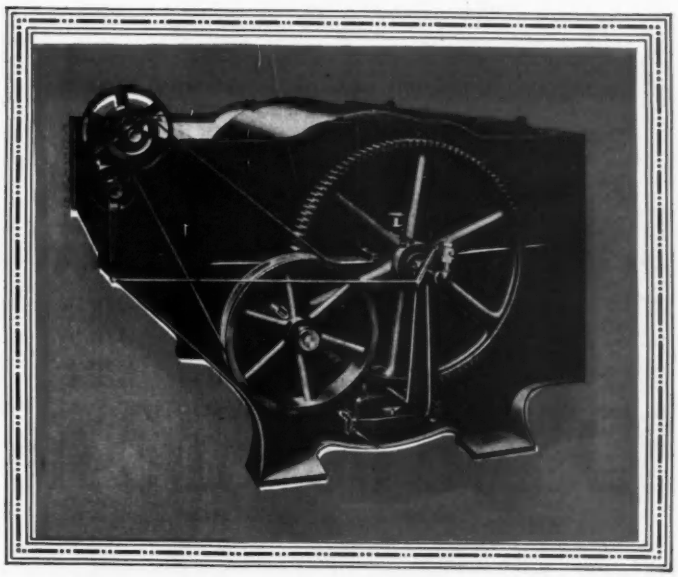
[FROM OUR REGULAR CORRESPONDENT.]

HUDSON FALLS, N. Y., September 8, 1924.—The Union Bag & Paper Corporation, operating one of the largest paper-making plants in Hudson Falls, during the past week conducted a school for salesmen at the local mill. The school with competent instructors continued in session for two days. The selling forces of the various branch mills of the Union Bag and Paper Corporation were well represented. The school served to bring into closer contact the company's sales force and it is believed that the school will have materially aided in increasing the efficiency of the salesmen.

Miami Paper Co. Buys Taylor Stokers

WEST CARROLLTON, Ohio, September 17, 1924.—The Miami Paper Company has purchased from the American Engineering Company, of Philadelphia, two 8-retort 21-tuyere Type H Taylor stokers for use in its plant at West Carrollton. These are in addition to the Taylor stokers already installed in their plant.

The BIRD SAVE-ALL



A Paper Mill Superintendent

Says "Bird Save-Alls are very efficient if you don't crowd them. We find that it pays to provide enough Bird Save-Alls to handle all of the water before it goes to the sewer."

BIRD MACHINE COMPANY
South Walpole, Massachusetts

Western Representative
T. H. Savery, Jr., 1524 Republic Bldg.
Chicago, Ill.

Canadian Builders of Bird Machinery
Canadian Ingersoll-Rand Co., Limited
260 St. James Street, Montreal, Canada

BIRD MACHINERY

1052

PAPER AND PAPER STOCKS IMPORTS AND EXPORTS OF THE UNITED STATES

For the Month Ending July 31, 1924, and for the Seven Months Ended July 31, 1924, as Compared with Corresponding Months of Previous Year

IMPORTS—PAPER.

Paper and Manufactures of	July 1923 Quantity	July 1923 Value	July 1924 Quantity	July 1924 Value	Seven Months Ending July 31 1923 Quantity	Seven Months Ending July 31 1923 Value	Seven Months Ending July 31 1924 Quantity	Seven Months Ending July 31 1924 Value
Paper, except printed matter (total)	.....	$9,145,907	.....	$9,662,193	.....	$66,270,481	.....	$69,443,250
Printing paper—								
Standard news print.....lbs..Free	206,260,451	7,734,707	224,345,537	8,386,517	1,489,018,747	55,664,210	1,573,705,040	59,484,468
Imported from—								
Finland .....lbs.	6,055,387	205,847	8,788,082	279,115	55,701,293	1,833,295	46,868,008	1,454,974
Germany .....lbs.	12,898,315	424,633	5,606,326	167,753	58,244,753	1,913,032	57,596,841	1,753,782
Netherlands .....lbs.	.....	.....	192,234	6,537	3,793,555	132,973	1,347,754	43,203
Norway .....lbs.	4,826,038	186,913	1,424,370	43,240	43,286,334	1,504,017	11,427,445	381,095
Sweden .....lbs.	9,682,814	314,336	17,485,639	594,562	72,426,664	2,322,584	59,195,535	1,899,246
Canada .....lbs.	172,264,990	6,586,053	190,273,560	7,277,613	1,247,994,969	47,695,550	1,394,677,835	53,873,342
Other countries .....lbs.	532,907	16,925	575,326	17,697	7,571,179	262,759	2,591,622	78,826
All other, n. e. s. .....lbs..dut.	1,237,634	62,970	2,480,081	109,860	9,144,972	460,056	15,847,828	651,909
Grease-proof and water-proof papers.lbs..dut.	148,435	16,425	88,206	9,050	1,758,998	162,221	976,248	104,350
Wrapping paper .....lbs..dut.	9,147,273	398,027	.....	.....	52,449,796	2,364,323	.....	.....
Kraft wrapping paper.....lbs..dut.	.....	.....	2,399,072	106,917	.....	.....	19,353,691	740,906
All other wrapping paper.....lbs..dut.	.....	.....	1,884,345	69,745	.....	.....	15,139,371	578,346
Writing, drawing, bond, etc.....lbs..dut.	252,254	43,245	248,164	59,798	2,178,419	409,933	1,381,946	300,419
Surface coated .....lbs..dut.	64,720	21,347	210,900	46,937	634,552	189,959	1,074,644	248,709
Tissue paper .....lbs..dut.	117,258	64,201	196,970	65,624	1,149,716	579,001	1,282,803	551,675
Paper boards—								
Pulp boards in rolls.....lbs..dut.	6,909,140	188,060	4,908,689	135,856	48,368,614	1,362,792	50,274,710	1,402,496
Other paper boards, n. e. s. ....lbs..dut.	1,927,201	59,318	2,973,009	65,451	14,622,062	414,665	19,619,699	461,367
Cigarette paper, cigarette books and covers .....lbs..dut.	575,432	142,262	361,096	97,556	7,437,883	1,961,946	6,167,976	1,628,763
Photographic paper .....lbs..dut.	204,576	32,425	236,046	52,209	1,081,965	224,316	1,940,487	395,078
Hanging paper .....lbs..dut.	498,679	26,181	237,472	19,796	4,842,357	300,629	7,597,833	374,197
Paper boxes .....lbs..dut.	.....	.....	192,360	114,772	.....	.....	963,988	587,274
Decalcomania, not printed.....lbs..free	47,907	11,209	51,801	12,902	242,500	62,990	302,576	73,276
All other .....dut.	.....	345,530	.....	309,203	.....	2,113,440	.....	1,860,017
Books and other printed matter (total)	.....	708,265	.....	834,109	.....	4,880,013	.....	5,195,002
Books and pamphlets in foreign languages .....lbs..free	168,041	97,206	213,612	131,954	811,494	576,307	1,309,644	783,348
Books, maps, music, etc., 20 years old .....lbs..free	28,612	56,769	37,838	115,533	212,014	869,352	211,201	827,163
Other books, etc.....lbs..free	239,393	190,569	222,928	175,108	1,373,772	1,041,015	1,396,535	940,994
Books, pamphlets, and music, n. e. s.lbs..dut.	211,122	168,060	254,435	184,243	1,544,711	1,304,314	1,940,821	1,326,163
Maps, charts and other printed matter, n. e. s.....dut.	.....	54,179	.....	62,655	.....	377,065	.....	475,436
Lithographically printed matter, n. e. s.....								
Cigar bands, labels and flaps...lbs..dut.	54,561	24,816	7,812	9,515	167,280	119,810	72,494	88,074
Decalcomanias .....lbs..dut.	20,239	31,011	23,267	32,909	88,271	131,654	151,543	214,273
All other .....dut.	.....	85,655	.....	122,192	.....	460,496	.....	539,551
CRUDE PAPER STOCK.								
Rags for paper stock.....lbs..free	25,753,503	445,119	43,472,932	775,973	226,010,792	4,142,856	266,625,629	5,656,842
Waste, bagging, waste paper, etc..lbs..free	8,229,732	198,504	7,301,706	82,531	86,860,316	1,238,767	58,092,149	676,980
Old rope and all other paper stock.lbs..free	8,097,694	352,954	7,551,811	434,372	66,251,179	3,017,234	58,294,577	3,174,028
WOOD PULP.								
Mechanically ground .....tons..free	15,514	521,589	16,109	530,895	139,783	4,795,883	105,535	3,554,672
Chemical wood pulp—								
Sulphite, unbleached.....tons..free	28,694	1,755,134	50,987	2,666,124	261,340	14,345,127	284,792	15,440,483
Sulphite, bleached.....tons..free	21,746	1,874,708	21,918	1,573,977	153,997	13,759,371	143,224	11,352,036
Total sulphite .....tons	50,440	3,629,842	72,905	4,240,101	415,337	28,104,498	428,016	26,792,519
Imported from—								
Finland .....tons	2,077	126,346	5,824	295,196	46,558	2,591,782	34,306	1,801,952
Norway .....tons	3,460	313,723	4,320	277,010	42,391	3,337,864	27,574	2,024,222
Sweden .....tons	15,844	1,057,346	31,518	1,683,845	110,550	6,655,940	138,062	8,012,807
Canada .....tons	22,245	1,667,835	24,979	1,635,139	176,346	12,813,329	185,934	12,388,748
Other countries .....tons	6,814	464,592	6,264	348,911	39,492	2,705,583	42,140	2,564,790
Sulphate pulp, unbleached (kraft pulp) .....tons..free	19,505	1,328,374	25,191	1,381,194	126,067	8,196,146	142,693	8,326,458
Imported from—								
Finland .....tons	1,404	79,188	2,685	124,410	11,445	654,915	8,291	398,622
Norway .....tons	1,232	82,506	2,250	123,217	5,000	276,089	7,218	347,796
Sweden .....tons	5,810	385,958	11,187	569,245	33,673	1,980,684	50,364	2,716,008
Canada .....tons	10,750	749,631	8,169	517,958	75,378	5,239,385	75,077	4,777,039
Other countries .....tons	309	31,091	900	46,364	571	45,073	1,743	86,993
Sulphate pulp, bleached.....tons..free	1,679	111,840	4,164	228,293	12,169	844,481	6,477	376,104
Other pulp .....tons..free	1,950	124,210	101	3,898	2,652	175,356	1,272	74,732
CHEMICALS AND OTHER PAPER MAKERS' MATERIALS.								
Colors, dyes, stains, color acids, and color bases, n. e. s.....lbs..dut.	160,931	236,691	238,968	270,421	1,956,674	2,631,177	1,854,678	2,230,693
Imported from—								
France .....lbs.	4,808	5,084	14,088	18,219	88,340	143,528	79,641	113,433
Germany .....lbs.	86,551	109,059	126,557	157,760	915,967	1,086,861	893,323	1,001,395
Italy .....lbs.	12,535	21,704	5,637	9,905	264,432	375,176	102,675	136,846
Switzerland .....lbs.	48,178	90,724	78,110	65,961	541,310	847,518	583,209	748,985
United Kingdom.....lbs.	4,519	4,965	5,583	5,987	64,152	61,784	52,505	48,877
Other countries.....lbs.	4,340	5,155	8,993	12,589	82,473	116,310	143,325	181,157
Casein or lactarene.....lbs..dut.	2,333,802	391,493	1,794,363	130,986	21,119,127	3,665,994	11,530,907	943,649
Kaolin, china, and paper clay....tons..dut.	27,041	283,709	27,750	276,615	181,483	2,016,173	192,385	1,973,093

(*Continued on page* 38)

An Aid to Wire Life!

The Beloit Suction Box Oscillator

Keeps Covers Smooth
Improves Guiding of Wire
Saves Wire Edges
Saves Wear on Guide
Makes More Paper Per Wire

Beloit Iron Works Established — **Beloit, Wis., U.S.A.** Since 1858

On Nov. 4th, 1920, 26,000,000 people voted, BUT 27,000,000 did not. VOTE NOV. 4th. VOTE AS YOU PLEASE, but VOTE.

PAPER AND PAPER STOCKS IMPORTS AND EXPORTS OF THE UNITED STATES

(Continued from page 36)

EXPORTS—PAPER.

Paper and Manufactures of	July 1923 Quantity	July 1923 Value	July 1924 Quantity	July 1924 Value	Seven Months Ending July 31 1923 Quantity	Seven Months Ending July 31 1923 Value	Seven Months Ending July 31 1924 Quantity	Seven Months Ending July 31 1924 Value
Paper, except printed matter (total)	.....	$2,079,222	.....	$1,818,883	.....	$15,257,550	.....	$14,213,290
Printing Paper—								
News Print Paper.....lbs.	1,959,981	102,561	1,994,485	102,059	19,676,724	998,579	20,604,606	1,055,461
Exported to—								
Canada	183,275	16,280	24,240	3,155	700,518	64,712	736,098	58,039
Central America	109,580	5,146	80,116	4,759	852,897	44,075	419,701	23,282
Mexico	65,162	4,919	102,141	4,941	792,172	57,604	1,383,559	69,444
Cuba	990,931	45,149	1,173,140	51,957	12,323,597	560,425	11,943,401	542,241
South America	184,147	9,054	303,654	18,164	1,207,509	63,637	1,363,776	79,359
Japan	96,653	6,035	5,220	519	483,168	32,342	526,852	35,531
Philippine Islands	275,258	12,458	148,378	9,027	2,751,380	136,143	2,314,201	115,703
Other countries	54,975	3,520	157,596	9,537	565,483	39,641	1,917,018	131,862
Book paper, not coated.....lbs.	3,010,731	326,827	1,172,511	155,817	17,029,801	1,890,498	8,919,964	1,065,717
Exported to—								
United Kingdom	54,043	11,688	139,089	36,757	359,168	79,435	589,795	119,297
Canada	183,367	21,160	81,625	11,913	1,473,069	191,594	1,094,765	141,625
Central America	105,030	14,039	14,794	1,709	519,683	59,361	334,617	36,252
Mexico	167,560	20,796	177,796	17,990	1,387,977	152,884	944,423	102,962
Cuba	639,203	68,675	141,122	15,704	4,962,869	527,778	1,759,277	204,188
Argentina	95,877	16,141	51,256	5,550	637,150	87,643	441,638	41,485
Brazil	145,311	11,757	19,333	3,466	581,708	60,975	187,115	26,303
Venezuela	12,401	1,651	12,926	1,387	188,173	29,934	282,049	31,237
Other South America	159,975	19,100	140,613	14,477	1,101,316	116,692	519,467	64,913
British India	13,726	2,177	6,590	1,120	176,434	20,041	54,972	7,409
China	385,012	42,157	184,413	17,488	1,173,055	129,001	699,623	67,623
Japan	555,655	45,752	22,074	2,149	1,557,904	137,393	329,342	40,892
Philippine Islands	263,083	23,707	43,187	4,160	1,885,818	173,681	709,124	63,583
Australia	136,879	14,910	61,557	6,848	547,263	62,601	330,209	37,543
Other countries	93,609	13,177	76,136	15,099	478,214	61,485	643,548	80,405
Cover paper.....lbs.	78,994	15,731	63,646	10,753	690,104	123,276	443,189	82,220
Greaseproof and waterproof paper.....lbs.	171,611	20,639	105,679	12,637	976,121	126,540	1,003,036	116,728
Wrapping paper—								
Kraft paper.....lbs.	55,514	6,059	34,516	4,003	421,511	36,244	366,632	42,606
Other wrapping.....lbs.	2,054,004	159,128	1,734,406	131,596	15,864,209	1,259,821	13,683,550	1,156,566
Writing paper, except papeteries.....lbs.	421,774	77,790	239,362	40,580	3,804,919	601,886	2,784,437	440,632
Surface-coated paper.....lbs.	406,108	51,780	340,441	50,920	2,515,409	385,722	1,874,117	305,408
Tissue and crêpe paper.....lbs.	305,532	78,746	214,264	60,892	1,848,941	443,163	1,550,708	397,459
Toilet paper.....lbs.	430,549	50,742	332,724	44,685	2,916,834	356,124	2,519,892	292,019
Paper towels and napkins.....lbs.	90,839	14,359	86,386	14,774	687,256	106,395	795,232	123,447
Bristols and bristol board.....lbs.	60,544	7,938	85,877	16,997	1,109,763	102,251	613,844	77,231
Paper board and straw board.....lbs.	5,111,563	232,790	6,617,900	257,941	31,660,753	1,564,636	43,587,571	1,772,961
Sheathing and building paper.....lbs.	427,737	19,513	348,451	20,190	2,155,329	100,682	2,549,536	122,518
Wall board of paper or pulp.....sq. ft.	1,523,271	58,606	863,548	33,780	8,131,948	306,891	10,564,958	346,919
Blotting paper.....lbs.	.....	.....	173,887	24,008	.....	.....	1,357,040	170,169
Filing folders, index cards and other office forms.....lbs.	.....	.....	38,255	12,042	.....	.....	269,783	98,628
Cigarette paper and books.....lbs.	45,575	13,526	51,920	19,827	259,697	84,210	611,339	222,810
Photographic paper.....lbs.	104,161	120,373	126,442	117,701	820,930	874,625	926,772	971,673
Paper hangings (wall paper).....yard	1,159,256	25,402	1,905,377	31,049	13,870,078	363,520	15,886,278	412,501
Paper bags.....lbs.	487,538	46,168	880,112	72,857	5,439,772	510,827	5,976,942	580,349
Boxes and cartons.....lbs.	906,764	90,357	1,166,043	88,950	6,422,586	594,585	7,714,846	637,626
Carbon paper.....lbs.	73,543	56,285	51,189	44,491	516,186	407,315	519,244	405,604
Envelopes.....lbs.	286,185	53,558	197,121	38,985	1,648,215	314,314	1,365,913	277,628
Playing cards.....pack	464,921	66,916	307,662	34,759	6,563,259	771,925	3,653,864	416,143
Cash register and adding machine paper.lbs.	115,651	13,101	92,716	10,379	640,918	68,705	694,576	78,944
Papeteries (writing paper in boxes)....lbs.	34,339	12,717	32,525	10,420	228,402	77,582	172,781	68,239
Other paper and paper products, n.e.s..lbs.	1,848,293	357,610	2,541,586	355,791	21,791,567	2,787,234	21,425,723	2,475,084
Books, maps, pictures, and other printed matter (total).....lbs.	3,871,484	1,368,353	3,978,459	1,443,282	26,859,330	9,636,858	30,254,351	10,678,900
Books and pamphlets.....lbs.	2,133,717	709,039	2,403,396	709,088	14,123,072	4,682,692	18,353,556	5,391,532
Maps and charts.....lbs.	16,555	13,565	9,785	11,472	118,931	98,039	94,585	96,889
Music in books or sheets.....lbs.	47,681	27,033	63,770	38,362	303,880	196,445	340,457	205,500
Souvenir post cards.....lbs.	21,992	12,140	26,252	15,314	270,885	93,916	194,865	91,017
Lithographically printed matter, except post cards and maps.....lbs.	114,376	77,957	154,071	143,791	1,085,413	843,980	1,210,720	1,029,574
Other printed matter.....lbs.	1,537,163	528,619	1,321,185	525,255	10,957,149	3,721,786	10,060,168	3,864,388

WOOD PULP AND PAPER STOCK.

Sulphite wood pulp.....tons	1,139	61,040	1,756	104,901	8,313	486,610	11,107	665,829
Soda wood pulp.....tons	385	35,867	40	3,228	2,388	229,174	1,082	100,951
Other wood pulp.....tons	173	12,082	250	22,619	935	51,972	2,670	263,139
Rags, and other paper stock.....lbs.	9,342,889	150,506	11,317,854	182,548	56,149,330	1,025,427	74,382,233	1,252,350

PAPER AND PULP MILL MACHINERY.

Paper and pulp mill machinery.....lbs.	850,837	141,300	1,097,649	238,163	8,637,177	1,396,466	6,471,714	1,380,092

Charles Walmsley & Co. (CANADA) LIMITED

Beating Its Own Record

"WALMSLEY-234" WIRE WIDTH NEWS PRINT PAPER MACHINE at Price Bros. and Co., Limited, Kenogami, Que., started in February, 1924.
On May fourteenth, it produced a record of 106.6 tons of standard news print in 24 hours. It now produces

109.9 TONS

"On June twenty-fifth last, No. 6 machine trimming 217½ inches, 32 pound basis weight newsprint, running at an average speed of 827 feet per minute, made an actual production of 109.9 tons, of a possible 114.5 tons (96.5% efficiency), losing six minutes for two breaks in the twenty-four hours."

Walmsley Paper Machines, are making records all over the world for the Economical Manufacture of Paper.

WORKS:
Longueuil, Que.

OFFICE:
Montreal, Que.

Editorial

Vol. LXXIX New York, September 18, 1924 No. 12

HENRY J. BERGER, Editor

A WORK THAT SHOULD BE SUPPORTED

The Paper and Pulp Industry of the United States has long had reason to be alarmed at some of the conditions under which foreign-made paper has been coming into this country. The American Paper and Pulp Association acted wisely when it decided to cope with that situation with a view to remedying some of the evils and improper practises. The Import Committee of that association has already done some very effectual work along that line and their efforts have only been a beginning.

The latest move for accomplishment in this direction has been made by manufacturers of allied lines who have organized the Supply and Equipment Association of the Paper and Pulp Industry and who intend to support and augment the work being done on this project by the American Paper and Pulp Association.

This Association has the endorsement of Mr. Henry W. Stokes, president of the American Paper and Pulp Association, and those who have already entered actively into the work of the new organization can see its fertile field for accomplishment.

As is the case in most important movements co-operation is necessary to bring success. This is particularly true in the case in question. A few supply houses cannot take upon their shoulders this responsibility successfully for the load is too heavy for a few to carry. If they will all co-operate, however, the load will not prove burdensome to any and the organization will be able to function properly and will be enabled to accomplish what it aims to accomplish.

The Organization Committee, headed by Mr. W. N. Wilkinson of the Union Sulphur Company, 33 Rector street, New York City, has sent out a communication to the supply houses. Some of them have responded to the committee's communication and others have ignored it. We believe that those who are in the latter class have shown indifference because they did not realize the importance of the issue and did not comprehend what it meant to them individually as well as to the American Paper and Pulp Industry as a whole.

It is a worthy undertaking and we hope that the committee will receive many belated responses to its communication until it has very close to a 100 per cent enrollment of co-operative effort.

PAPER IMPORTS DECLINE

The imports of paper for July, which have just been issued by the Department of Commerce and which are the latest statistics available, showed a considerable decline as compared with June, the figures for the former month being $9,662,192 as compared with $10,165,758 for the latter. The total imports for July of last year, however, amounted only to $9,145,907. The imports of all varieties of paper for the seven months ending with July amounted to $69,443,250 as compared with $66,270,481 for the same period last year.

The decline in imports was especially noticeable in standard news print, the figures for July being $8,386,517 as compared with $8,761,596 for June and $7,734,707 for July of last year. The imports of news print for the seven months ending with July were valued at $59,484,468 as compared with $55,664,210 for the same period last year.

The imports of wrapping paper, including Kraft, for July were valued at $176,662 as compared with $130,211 for June. The imports of wrapping paper, including Kraft, for the seven months ending with July amounted to $1,319,252.

The imports of rags for paper stock for July were valued at $775,973 as compared with $750,594 for June and $445,119 for July. The imports of rags for paper stock for the seven months ending with July were valued at $5,656,842 as compared with $4,142,856 for the same period last year.

The imports of bagging, waste paper, etc., for July were valued at $82,531 as compared with $112,640 for June and $108,504 for July of last year. The imports of bagging, waste paper, etc., for the seven months ending with July were valued at $676,980 as compared with $1,238,766 for the same period last year.

The imports of old rope and all other paper stock for July amounted to $434,372 as compared with $421,549 for June and $352,954 for July of last year. The imports of old rope and all other paper stock for the seven months ending with July were valued at $3,174,028 as compared with $3,017,234 for the same period in 1923.

The imports for ground wood for July were valued at $530,898 as compared with $382,707 for June and $521,589 for July of last year. The imports of ground wood for the seven months ending with June were valued at $3,554,842 as compared with $4,795,856 for the same period in 1923.

The imports of unbleached sulphite pulp for July amounted to $2,666,124 as compared with $2,306,450 for June and $1,755,134 for July of last year. The imports of unbleached sulphite pulp for the seven months ending with July were valued at $15,440,483 as compared with $14,345,127 for the same period last year.

The imports of bleached sulphite pulp for July amounted to $1,573,977 as compared with $1,468,983 for June and $1,874,708 for July of last year. The imports of bleached sulphite pulp for the seven months ending with July amounted to $11,352,036 as compared with $13,759,371 for the same period last year.

The imports of unbleached sulphate pulp for July were valued at $1,381,194 as compared with $956,855 for June and $1,328,374 for July of last year. The imports of unbleached sulphate pulp for the seven months ending with July were valued at $8,326,458 as compared with $8,196,146 for the same period in 1923.

Paper exports during the month of July again showed a downward tendency, the total value for the month being 13 per cent under those for June and also for July, 1923, according to the Paper Division of the Department of Commerce.

The losses were more or less distributed among all classes of paper, news print and hanging papers being practically the only ones during July to show an increase in the quantity exported as compared with the same month in 1923. Shipments of cover, surface-coated, tissue and crepe, and cash register papers, and papeteries, however, were larger than during June, while exports of hanging and wall papers more than doubled.

A better showing was made by the board branch of the industry, shipments of all items, with the exception of wall boards, having increased during last month. Paperboard and strawboard exports during July were 40 per cent greater than in the previous month and 30 per cent greater than in July, 1923, and while exports of bristols and bristol boards again dropped off 10 per cent compared with June, they were 42 per cent higher than those of a year ago. Shipments of boxes and cartons and of paper bags were also considerably larger during the past month.

Wood Pulp Active in Sweden

STOCKHOLM, Sept. 8, 1924.—The wood pulp market continues active in Sweden, and the sales for delivery next year are growing rapidly. The mills are increasing their capacity and new mills are being planned. The board of directors of Graninge Works, Ltd., at Haernoesand, have decided to build a sulphate mill at that place to cost upwards of $1,500,000. This mill will utilize a great quantity of thinnings and small stuff now available in the forests of the region, in spite of the fact that there are already three pulp mills in the Haernoesand district.

Inquiries made in the pulp market here reveal highly satisfactory activity in sulphite pulp, 35,000 tons having been sold during a period of two weeks. Manufacturers of artificial silk have been conspicuous among those placing orders for bleached sulphite, and the special grade they require is priced higher than the average grade for paper making. Prices on easy-bleaching sulphite are firm. Firmness is also shown in the strong sulphite market, and it is significant that both British and Continental buyers are abandoning their old tactics of buying only for the day's needs. In the sulphate market small lots are selling rapidly, while important orders for next year's delivery are coming in from America. The ground pulp market has been lively, resulting in orders for about 31,000 tons during a period of two weeks.

Exports of pulp and paper from Sweden during the first seven months of this year have reached a total of about $44,500,000 as compared with about $37,200,000 for the corresponding period of last year. The pulp exports to America during the first seven months of this year were valued at $11,890,131 as against $8,112,000 during last year. The paper exports from Sweden to the United States during July were valued at $728,000, as against $405,796 during the previous month.

Good Beginning for St. Lawrence Mills

MONTREAL, Que., September 15, 1924.—The first annual statement just issued by the St. Lawrence Paper Mills, Limited, is of a most satisfactory character. It shows an operating profit for the year ended June 30 last of $785,337. After the deductions for depreciation, interest, etc., there was a net available for dividends of $345,297. This sum was sufficient to provide the 8 per cent dividends on the 25,000 shares of preferred stock outstanding, and also to show $2.90 per share on the 50,000 shares of no par value common.

During the year the proceeds of the company's bond and preferred stock sales wiped out its large bank loan. Without the bank loan, the showing now reported would be sufficient to provide interest for the full issue of $2,500,000 6½ per cent. bonds, the preferred dividend, and leave $3.03 per share on the common stock. The company is in a comfortable position as regards working capital, current assets of $943,028 exceeding current liabilities by $708,684. Apart from capital liability, the only current liability, consisting of accruals and tax provision, consists of $175,591. In view of the earning position of the company and the strong liquid position, the directors declared 4 per cent. of the back dividends due on the original issue of 10,000 preferred shares, this being necessary in order to put all the preferred shares equal on a dividend basis.

News Print Production Cost

MONTREAL, Que., September 15, 1924.—The Financial Post, of Toronto, in an analysis of the news print production costs of various mills in Canada, points out that there is a big variation, and gives the following interesting comparisons of leading companies:

ABITIBI

To pay bond interest and present dividend of $4, Abitibi must earn, per ton	$12
To pay $6, must earn per ton	15
Last statement showed, after depreciation	22

This is the highest net profit shown by any company and stamps Abitibi as a low-cost producer.

BELGO

To pay interest, preferred dividend and start common off at 4 per cent., Belgo must earn, per ton	$ 6
To pay 6 per cent., must earn	10
To pay 8 per cent., must earn	13
Present earnings, probably about	20

This is figured on actual output, not capacity.

LAURENTIDE

To maintain present dividend takes per ton	$12
1924 statement showed a little over	13

Allowance has been made for $400,000 of power revenue.

PRICE BROTHERS

To pay bond interest and present dividend, Price Brothers must earn, per ton	$ 9.50
To double dividend, earn	15.00
Last statement showed, per ton	15.00

This assumes that lumber business only broke even. Larger output and larger bond issue will alter figures.

SPANISH RIVER

To pay present dividend bond interest and present dividends of 7 per cent. on common and preferred as well as proportion of dividends to bondholders takes, per ton	$10.00
To pay 10 per cent. on both	13.50
Spanish earned in 1924, after depreciation, about, per ton	16.00

K. V. P. Co. Installs Water Cooling Tower

KALAMAZOO, Mich., September 9, 1924.—Installation of a water cooling tower at the Kalamazoo Vegetable Parchment Company's new mill is the latest improvement made at that plant. Not only does this tower insure an adequate supply of properly cooled water for the paper machines, but it has reduced the daily consumption of water in the new mill from 5,000,000 gallons to about 1,500,000 gallons, thus effecting a great saving.

Under the old system the water came from the filter plant and passed through the turbine condensers, which raised the temperature 20 degrees. This water then went to the paper machine and was too high in temperature to make good paper.

With the cooling tower and its auxiliary equipment, it is now possible to circulate the water around the condensers continuously. After the water is heated in the condensers, it passes directly to the tower for cooling and distribution to the paper machine.

Jacob Kindleberger, president of the Kalamazoo Vegetable Parchment Company, declares that the new system of filter beds and connections, whereby the water supply is taken directly from Kalamazoo river has been tested severely and found in every way satisfactory. An over abundant supply of the very purest water for paper making also for use in the boilers is always available.

Robert Gair Co. to Install New Engine

NEW LONDON, Conn., September 15, 1924.—The Robert Gair Co., is to install a new engine and engine room for driving the No. 2 paper machine at its Thames River Division at Montville.

Karl A. Lefren of New York is consulting engineer.

SYMBOL OF QUALITY
KALBFLEISCH CHEMICALS
FOR NEARLY A CENTURY

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of
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DRY SATIN WHITE

The Latest Development in The Coated Paper Industry

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Both Commercial and Iron Free
FOR PAPER MAKERS

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Cylinder Molds—Press Rolls—Pulp Grinders—Semi-Automatic Skinners —collapsible shafting.

Combination Operating and Load Regulating

VALVE FOR PULP GRINDER

takes place of ordinary valve on each cylinder—instant control of load—no upkeep—no adjustments—operates same as ordinary valve.

EFFICIENT — ECONOMICAL

Made by
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Nekoosa, Wis.

Section of the
Technical Association of the Pulp and Paper Industry

AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Conducted by W.G. MacNAUGHTON, Secretary

REFUSE BURNING AND BARK DRIERS

By Arthur St. Klein

In a recent issue of Paper Trade Journal, (July 17, 1924), G. D. Bearce described the Nordstrom and Grewin types of driers. In Sweden bark and wood refuse have been used as fuel for a great many years, and many of the large mills use nothing else in the summertime. Sawmill waste is chipped and burned in furnaces, many of which are of the design shown in Fig. 1 which is the type recommended for the purpose by the Gothenburg Section of the Angpannaförenigen (Association of Boiler Owners).

The fuel value of wood refuse depends largely on the moisture content. Generally speaking 1 cubic meter with 28 per cent moisture will weigh 56 kilograms and have a heating value of about 2,960 calories. One ton is equal in fuel value to about 0.2 tons of the best South Yorkshire coal. With the average variation in moisture content, the heat value of wood refuse is between 2,800 and 3,400 calories.

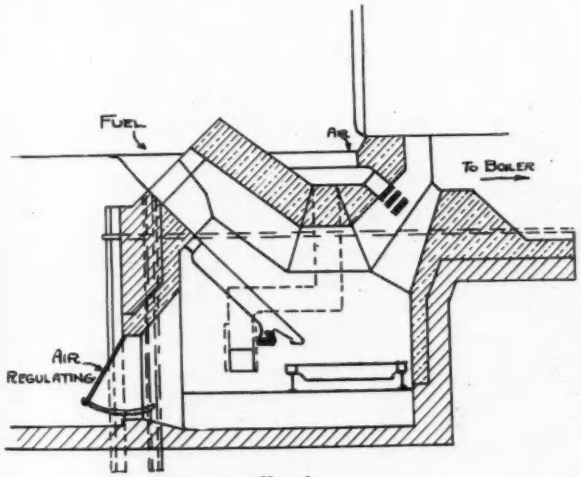

Fig. 1.

The efficiency of the furnace illustrated is between 62 and 65 per cent.

Bark Driers

There are many mills in Sweden that have long used the dry chimney gases to dry the bark and refuse. A sulphite mill at Dalarne has done so for over twenty years, long before Otto Nordstrom developed his mechanical equipment.

Another type I might mention is that invented by Bodlund, which is shown in Fig. 2 This is a rotary double cylinder. The bark enters 1, 2, the supply being controlled at 3, passing through the rotary cylinder along 4 and 5 where it is brought into contact with

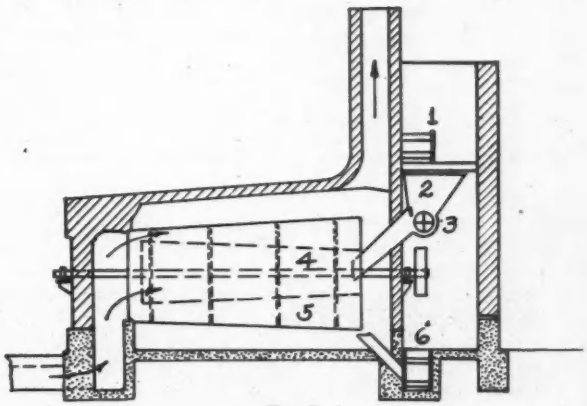

Fig. 2.

the hot gases from the furnaces. The dry bark drops on 6, a conveyor that takes it back to the furnace.

There are many possibilities in using the heat in the waste stack gases for drying bark and preheating the air of furnaces and greatly increasing the efficiency of steam production.

If American readers are interested I will be glad to supply further details of the equipment and methods used here for preheating air in pulp mills.

The Curl Size Tester

[From our regular correspondent.]

Washington, D. C., September 17, 1924.—In relation to testing the degree of sizing of paper a report is being prepared by the Paper Laboratory of the Bureau of Standards which will contain a description of the "Curl Size Tester", this instrument having been devised for application of the "Curl" method of testing. A discussion of results obtained with this method in comparison with other proposed methods will be included. A "Curl Size Tester" has been sent to a paper mill laboratory which will make a study of the "Curl" method as applied to control of sizing in manufacturing processes.

THE TREATMENT AND DISPOSAL OF STRAWBOARD WASTES*

By H. B. Hommon[1]

This paper gives a complete account of the studies made at the American Strawboard Mill, now Ball Bros., Noblesville, Ind., for developing methods to treat wastes resulting from the manufacture of paper from straw.[2]

Process of Making Paper from Straw

Strawboard mills are generally located in wheat-growing districts. The straw is purchased from the farmers, baled, and shipped to the mills where it is stacked in large piles. The first step in the process of making paper is to cook the straw in large ellipsoidal rotating steel boilers with steam and lime, about 1 ton of the mixture to 6 tons of straw, until the woody fiber is softened, and the whole mass has been reduced to a dark yellow pulpy consistency. The yield of pulp at this point is about 75 to 80 per cent of the weight of the original stock. The pulp is removed from the boilers, allowed to drain, and then placed in beaters and washers, where it is broken up and the lime, fine particles of straw, and other foreign material washed out.

From the washing machines, the pulp is carried by water to the paper machines, where it is taken up on felts and delivered to a train of hot rolls that turn out the finished product.

Volume of Wastes Produced

Of the many sources of waste from a strawboard mill, only two produce large quantities, namely, the washing and the paper machines. These two wastes come from separate parts of the mill and differ widely in composition, but they are approximately the same in quantity. While the tests were being conducted at Noblesville, a survey was made of seven other strawboard mills, in order to determine how far the analyses and flow data obtained at the experiment station were representatives of the entire strawboard industry.

As already stated, the pulp from the cookers or rotaries is washed to remove the lime, fine particles of strawboard, and other foreign material. The quantity of water used for washing the pulp varied considerably at the different mills where measurements were made, but the average was 18,200 gal. per ton of strawboard made. This figure checks closely the average for a long period at the mill where the experiments were conducted.

The waste from the paper machines consists of the water used to carry the pulp to the train of rolls. The measurements obtained at the various mills visited, showed variations, but the average, 19,900 gal. per ton of finished product, was almost identical with that obtained from the flow data at the experiment station. Therefore, about 38,500 gal. of waste was produced for each ton of strawboard made.

Composition of Wastes

The waste from the beaters or washing machines was by far the more concentrated of the two, as it contained the chaff, minute particles of straw, and small particles of other organic matter washed from the pulp after digestion in the boilers. This waste also contained the lime washed from the digested pulp.

When the survey was made of the seven strawboard mills to determine the volume of wastes produced, a series of composite samples were collected from the wastes from the washing and paper machines and shipped to the central laboratory in Cincinnati, Ohio, for analysis. The results of the analyses of the washing machine wastes showed that the total suspended matter varied from 3,000 to almost 9,000 parts per million; the suspended matter in the supernatant liquor, after 24 hours of settling, varied from 450 to 2,400 parts per million; the organic nitrogen, from 47 to 105 parts per million; the alkalinity as carbonates, computed as $CaCo_3$, amounted to 1,870 parts per million; the oxygen consumed varied from 1,480 to 3,400 parts per million; and the oxygen demand, 10 days at 20° cents., from 1,850 to 3,600 parts per million.

The waste from the paper machines contained only the small quantity of fiber and other finely divided material that passed through the screens, together with the lime left from the washing process. The analyses from the mill where the tests were made and from the other seven mills covered in the survey, varied within the following limits: Total suspended matter, range 440 to 991 parts per million; suspended matter in supernatant liquor after 24 hours of settling, 60 to 460 parts per million; total organic nitrogen, 10 to 43 parts per million; carbonate alkalinity found in only three wastes of the eight reported; oxygen consumed, 191 to 970 parts per million; and oxygen demand, 10 days at 20° cent., 111 to 890 parts per million.

The analyses of the composites of the two wastes at the experiment station for the period of tests checked the averages of the results from the mixed wastes at the other seven mills, within reasonable limits.

On the basis of the figures given for the average total volume of waste per ton of strawboard manufactured, and on the rated capacity of the mills in the United States in 1918[3], there were approximately 20,000,000,000 gal. of waste discharged from the various plants during the year. Computed on the basis of the average suspended matter in the mixed wastes from all the plants visited, there were approximately 161,000 tons of dry suspended solids discharged from the strawboard mills in 1918. Much of the material was short fibers of straw, which the type of machinery in use at that time could not save.

Treatment of Wastes

The experiment station was operated at the American Strawboard Mill from January 1, 1915 to June 30, 1916. The test units consisted of two settling tanks each 8 ft. in diameter by 10 ft. deep; one chemical reaction tank, 6 ft. in diameter and 10 ft. deep; one chemical settling tank, 8 ft. in diameter and 10 ft. deep; one chemical solution tank, 5 ft. in diameter and 6 ft. deep; one mechanical filter, 8 ft. in diameter and 6 ft. deep; two filters, 8 ft. in diameter and 10 ft. deep; one filter, 6 ft. in diameter and 10 ft. deep; and one filter, 8 ft. in diameter and 6 ft. deep.

From January 1 to July 1, 1915, the plant was operated on the principle of mechanical filtration. Alum alone and lime and iron were used as coagulants. The results obtained were unsatisfactory, due mainly to the large quantities of chemicals required for efficient coagulation, the very low rates of filtration through the mechanical filter, and the high percentage of water required to wash the filter.

As this method of treating the waste was impractical, further description of the plant, or discussion of the analyses of the various effluents, will be omitted for this period of operation.

During July, 1915, the plant was remodelled and operated until the close of the tests on the principle of biological treatment of the wastes. The two settling tanks were retained and operated as during the first period, but all the other tanks were turned into filters. The filters were constructed as follows: One, 6 ft. in diameter, having 5 ft. of limestone screenings; one, 8 ft. in diameter, having 5½ ft. of 1½-in. limestone; and one 8 ft. in diameter, with 5 ft. of unscreened cinders; one 8 ft. in diameter, with 5 ft. of screened cinders; and one small screened cinder filter, 4½ ft. deep.

*In Transactions, Am. Soc. C. E., Vol. 86 (1923).
[1] Sanitary Engineer, U. S. Public Health Service, San Francisco, Cal.
[2] Data taken from Bulletin No. 97, U. S. Public Health Service.
[3] Lockwood's "Directory of the Paper and Stationery Trades," 1918.

Results Obtained at the Experiment Station During Period 2

The test units were operated for about one year in this period, and the results showed that strawboard wastes of the character produced at the American Strawboard Mill in making paper from straw could be treated so that the final effluent could be discharged into a stream of water having a dilution factor of at least 5 or 6, without creating a nuisance in the stream, or killing fish.

The weighted average for the suspended matter in the mixed raw waste for Periods 1 and 2 was 1,760 parts per million. During Period 2, the averages for total nitrogen and oxygen consumed were 29 and 910 parts per million, respectively. The carbonates and bi-carbonates were 141 and 598 parts per million, respectively. The oxygen demand at room temperature for 24 hours was 40 parts per million.

The raw waste was settled in tanks for about 2 hours, and the average suspended matter in the effluent was 680 parts per million, which is a reduction of 53 per cent. This was computed on the suspended matter in the raw waste during Period 2. The advantage of longer storage periods than two hours was practically negligible. The total nitrogen averaged about the same for the tank effluent as for the raw waste. The carbonate alkalinity was reduced by the tanks from 119 parts per million in raw waste to 63, and the bi-carbonate was increased from 533 to 558 parts per million. The averaged for the oxygen consumed was reduced from 720 to 575 parts per million.

The effluent from the tanks was treated on filters of the different sizes, kinds, and depths of filtering material already described. Filters of coarse and fine limestone and of unscreened cinders did not give satisfactory results and discussions of them will be omitted. Two filters of screened cinders, one 8 ft. in diameter and 5 ft. deep, and the other, 4.5 sq. ft. in area and 4.5 ft. deep, produced satisfactory effluents. The smaller of the two filters was in operation 11 months and the larger, 9 months.

The average analyses of the effluent of the large, screened, cinder filter compared with the average results from the influent are given in the Table 3.

The suspended matter in the effluent of the large, screened, cinder filter had none of the characteristics of that in the effluent of the settling tanks or in the raw waste. It was more like humus. The final effluent had a slight yellow cast and there was no odor. The nitrification was low, but samples diluted 1:3 with tap-water were stable by the methylene blue test for 90 hours.

TABLE 3

	Influent in parts per million	Effluent in parts per million
Suspended matter	918	115
Carbonates as $CaCO_3$	121	29
Bi-carbonates as $CaCO_3$	528	417
Oxygen consumed	742	133
Oxygen demand (24 hours, room temperature)	54	9.5
Nitrogen, total organic	29	9.1
Nitrogen as nitrites	...	0.035
Nitrogen as nitrates	...	1.3
Hours to reduce methylene blue at room temperature, dilutions, 1:10 and 1:3, respectively	40	90

In considering the results of the analyses of this filter effluent, it should be borne in mind that the organic matter of the waste was mostly cellulose that had been worked over in the bed, and that in its final condition it was not different from the material washed from woods or lands covered with decayed vegetation. When the filter was examined at the close of the tests, the top layer of material had a deposit resembling the original pulp; but below the upper half of the bed, the color of the deposit was dark and it was alive with earth worms and other small organisms. The odor was much the same as that noted when digging into soil rich with decayed organic matter.

The filter contained considerable organic matter, but it did not have the same effect on the effluent that an equal amount would have on a sewage filter, probably for the reason that the clogging material was of uniform composition and the life in the filter was capable of reducing it before anærobic action could be established. After the filter was examined, it was flushed with water and the filtering material thrown out of the beds. The first water from the flushing carried out large quantities of black flocculent matter and masses of earthworms and other organisms, and, later, the accumulation from the top layers came through. While digging out the cinders, it was observed that the voids were fairly clear and that the material remaining after flushing was gathered around the filter media. It is believed that cinders screened over a ¼-in. screen, or thoroughly washed with water, can be used for many years to treat settled strawboard wastes, but it may be necessary to flush the beds about once a year to remove the clogging material from the lower half of the bed. There probably would be no objections to using settled waste for flushing, but if water is available it should be used, as it would freshen the filter and not add the same burden of organic matter to the receiving body of water that would result from using the settled waste.

Settling Period and Rates on Filters

The settling periods in the tanks at the experiment station varied from 2 to 8 hours. The suspended matter results for the various periods showed conclusively that 2 hours of settling was sufficient to remove practically all the settleable matter that could be removed by tank treatment in an economical period of time. The screened cinder filters were operated for several months at a net rate of 400,000 gal. per acre per day, and the results obtained were satisfactory. This rate has been set as the maximum for settled strawboard wastes, and it is believed that it can be maintained for many years, provided the filters are flushed with water or tank effluent whenever they become clogged so that the influent does not flow readily through the beds.

Treatment of the Wastes by the Activated Sludge Process

Laboratory tests were made to determine whether this process will be applicable to this class of wastes. Air was blown through sewage in large-bore glass tubing until a satisfactory flock had been obtained and then waste was added gradually to replace the sewage. the results obtained after prolonged aeration were not satisfactory as the supernatant liquor after settling 30 min. invariably contained about 105 parts per million of suspended matter and the color was only slightly less than that of the raw waste. The analyses did not show as high degree of purification as that obtained by the tanks and filters.

Accumulation, Composition, and Disposal of Sludge

Careful measurements and analyses were made of the sludge deposited in the tanks. The measurements showed that about 2.75 tons of dry solids were deposited per 1,000,000 gal. of waste treated and this, computed to 87 per cent wet sludge, gives 24 cu. yd., or 0.9 cu. yd. per ton of product.

The analyses of the sludge in different stages of decomposition, and of horse manure, are given in Table 4.

TABLE 4
ANALYSIS OF STRAWBOARD WASTE SLUDGE AND HORSE MANURE

	Percentage (Dry Basis 100° Cent.)			
Source	Total nitrogen	Calcium as $CaCO_3$	Total phosphorus as P_2O_5	Total potassium as K_2O
Fresh sludge from settling tank	0.69	21	0.38	0.54
Digested sludge from settling tank	1.0	23	0.48	0.42
Sludge from old settling pond	0.66	37	0.29	0.25
Horse manure* (including litter)	1.7	..	0.26	1.50

*Data from Bulletin No. 246, Ohio Agricultural Station, p. 726.

The disposal of the sludge presents a rather difficult and expensive problem. On the basis of the data obtained in the tests, there would be produced at the American Strawboard Mill about three tons of dry solids per 24 hours, or about 26 cu. yd. of wet sludge. The only practical method developed for disposing of the sludge was to dry it on shallow beds of cinders and apply it to land under cultivation for grain grown in sections where wheat is raised. Field tests were made, using the dried sludge as a fertilizer, and

satisfactory increases in yield were found for corn when 8 tons per acre were used. As nearly as could be determined, the sludge had about the same value as a fertilizer as ordinary yard manure. In small box tests, the dried sludge invariably increased the yield of wheat, oats, and vegetables.

Effect of Filtered Waste on Fish Life

A small box, 3½ ft. long by 2½ft. wide by 1 ft. deep, was placed under the outlet from the large, screened filter bed. The effluent discharged into this box was diluted with one part of fresh water, and into this mixture 20 minnows were placed. In this dilution, the fish lived from May 8th to July 1st, when the experiment station was dismantled.

Treatment Plant Recommended

On the basis of the data obtained in the tests, it was recommended in the report that settling and sludge storage capacity of about 975 cu. ft. per ton of daily output from the strawboard mill be provided in ordinary plain settling tanks. For drying the sludge, it was recommended that 875 sq. ft. of filter area be provided for every ton of strawboard made and that the beds be made of unscreened cinders about 10 in. deep.

The filters used in the test that were most satisfactory, were made of screened cinders five ft. deep, and the highest rate of treatment that gave satisfactory results was 400,000 gal. per acre per day. On the basis of these data, it was recommended that 4,171 sq. ft. of filter area be provided for each ton of product made, or 772 cu. yd. of cinders per ton.

Conclusion

At the time the experiment station was placed in operation, no practical method was known for treating wastes produced from the manufacture of paper from straw. Where this type of waste had caused serious nuisance in the receiving bodies of water, dikes had been constructed, sometimes enclosing as many as 50 acres of land, and the ponds thus made were used as a means of storing wastes. Evaporation and seepage into the ground were taking care of the waste.

The testing station was planned and operated to modify the character of the waste so that the organic matter in the final effluent, whether in suspension or solution, would not draw heavily on the oxygen supply of the receiving body of water or kill fish, and would not form offensive sludge deposits.

It was believed that this was as far as the first studies should go, leaving the subject open for further investigation, with particular reference to the effect of the treated waste on water filtration plants purifying water from bodies of water containing the waste. This phase of the problem can be studied only after large treatment plants have been placed in operation.

The results obtained in the tests showed that strawboard wastes can be treated at a reasonable cost, so that a body of water affording a dilution factor of at least 5 or 6 can receive the final effluent without danger of causing a nuisance or killing fish. In low dilutions, there will be some increase in color from the treated waste and an increase in the alkalinity, but no harmful bacteria will be added, and it is believed that domestic sewage from sprinkling filters will have more effect on a stream of water than an equal volume of the treated waste.

A complete description of the experiment station, together with a large amount of analytical data and the final recommendations in detail are given in the report of the tests.

POLLUTION OF STREAMS BY PULP-MILL WASTES*

By GEORGE C. WHIPPLE,[1] M. AM. SOC. C. E.

The manufacture of wood pulp is a hydro-chemical process; consequently, pulp mills are always located on streams or canals. Large volumes of water are required and the waste waters which contain the spent chemicals and the washings of the pulp, pollute the streams. Whether this pollution does damage down stream depends on man factors, namely, the relative volumes of waste and of stream flow and the variations in flow; the quality of the river water and the character of the wastes; the opportunity for mixing, the velocity of the current, the existence of riffles, slack water, aqueous vegetation, re-aeration, sedimentation, and the many factors which bring about the natural purification of streams; and, finally, the use which is made of the river water down stream. These factors are common to all forms of stream pollution resulting from hydro-chemical processes, but there are no two places where the conditions are exactly alike. Every polluted stream has its own set of conditions, therefore, generalizations are hazardous. The speaker will only call attention to certain facts regarding pulp-mill wastes and discuss briefly the larger problems of stream pollution by industrial wastes.

It should be noted that the pollution of streams by pulp-mill wastes is only a part of a more general problem—the pollution of streams by trees and tree products—a problem which appears in many forms. Annually, the leaves fall, decay, and the products of their leaching are carried into ponds, brooks, and rivers. Trees die and gradually their wood decomposes. Trees are floated down stream to the mills, and their soakage tends to increase the color of river water, although the effect is not great. Logs are sawed; the sawdust lies in heaps or washes into the rivers and the pollution takes a different form. All these processes are slow, and the resulting pollutions are regarded as natural. It is only when wood fiber is treated chemically, when vast quantities of logs are brought to one mill, that stream pollution becomes a problem. Pulp-mill pollution is also akin to that of strawboard waste pollution and to beet-sugar pollution, both of which involve the decomposition or chemical treatment of vegetable fiber and the use of water in large quantities.

There are three processes of making wood pulp, which need to be distinguished from each other because of the difference in their waste products. They may be referred to as (*a*) ground pulp; (*b*) soda pulp; and (*c*) sulphite pulp. The object of all these processes is to separate the fibrous from the non-fibrous parts of the wood, the fibrous materials being used for making paper.

Ground Wood

Ground pulp is made by cutting logs into short lengths and pressing them against rough grinding wheels kept wet with water. The resulting crude pulp is washed, screened, deposited as a blanket, rolled, and dried. Mechanical pulp thus prepared contains not only cellulose but also lignin and resinous matter. The wash water contains a large quantity of wood fiber and extractive matter, sometimes 10 per cent of the weight of the wood. Chemically, it resembles saw-dust, but is finely shredded instead of granulated.

Soda

In the soda process, soft wood, usually poplar, is chipped and digested in hot caustic soda, the resulting pulp being washed, bleached, drained, and worked into the usual blanket form. Soda digestion yields a soft grayish brown pulp and a black liquor which results from the decomposition of the lignin and resins. A large part of the soda used is recovered by concentrating this black liquor in evaporators, burning off the lignin and other organic materials in rotary furnaces, leaving carbon and sodium carbonate which is leached out and converted back to caustic soda by boiling with caustic lime. As a result, there is wasted a small volume of black-ash

* In Transactions Am. Soc. C. E., Vol. 86 (1923).
[1] Cons. Engr.; Prof., San. Eng., Harvard Univ., Cambridge, Mass.

sludge which contains a little unleached soda ash, and a large volume of calcium carbonate sludge. A small volume of lime sludge resulting from the bleaching process is also wasted. The liquid wastes consist of wash waters from several parts of the process. They contain wood pulp, caustic soda, and hypochlorites, but are usually not large in volume. In recent years, electrolytic methods of producing caustic soda and calcium hypochlorite from brine have been introduced and savings made which have reduced the waste products. It is said, however, that for every ton of wood-pulp products about 150 lb. of caustic soda are lost.

If all the solid waste products from soda pulp mills were to be discharged into the streams, a serious pollution would occur. Sedimentation basins are usually provided and with them it is possible to retain the bulk of the sludge. The volume of the sludge is very large, however, and in the course of years large areas are required. Unless the sedimentation beds are well operated, foul liquids are likely to be discharged from them, either by drainage or by overflow at times of rain. On the whole, however, the soda process, with its recovery methods, destroys a large part of the lignins and wood extractives by burning, and the pollution of streams by soda pulp mills is more a mineral than an organic pollution.

Sulphite

In the sulphite process, the wood fiber is disintegrated by the use of the sulphites of calcium and magnesium with an excess of free sulphurous acid. Spruce and hemlock are the woods commonly used. The sulphite is manufactured by passing sulphurous acid through a suspension of milk of lime, or by burning sulphur and passing the fumes into an acid tower packed with crushed limestone or dolomite, water being allowed to trickle down as the fumes ascend. The sulphite solution runs out at the bottom of the tower and is pumped to the digesters in which the chipped wood is packed. After digestion for several hours under high pressure, the contents are delivered into a pit from which the waste liquor drains off, leaving the fiber. This waste sulphite liquor has the appearance of a thin molasses, and has a woody, acrid, sulphurous odor. It often contains as much as 10 per cent of solid matter, consisting of wood fiber, lignin, resin, and wood extractives modified by the process. It generally contains sulphurous acid, sometimes as much as 0.5 to 1 per cent. The pulp is screened, washed, and perhaps bleached, and is worked into a blanket ready for paper-making, these processes yielding waste waters which contain fiber and other impurities. It will be observed that in the sulphite process the lignin, resin, and wood extractives are wasted to the stream, whereas, in the soda process, they are mostly burned. For this reason, the pollution of streams by sulphite pulp mills has proved a more serious matter than that caused by pulp mills using the soda or the mechanical process.

The volume of the liquid waste from a sulphite pulp mill is large and may be as much as 800 to 1,000 gal. per ton of pulp. It is said that for each ton of finished pulp an equal quantity of organic material is discharged into the stream as waste liquor, together with about 400 lb. of sulphur in acid form or organic combination. The action of the bisulphites on the lignin is to produce a mixture of sulphonated substances which give rise to ligninsulphonic acid or the calcium or magnesium salts of this organic acid.

Earle B. Phelps, Affiliate, Am. Soc. C. E., has given the following average analysis of two samples of sulphite liquor, which may be regarded as typical:

	Parts per million.
Total solids	95,000
Loss on ignition (organic)	82,000
Oxygen consumed	36,000
Ash (mineral)	13,000
Analysis of ash:	
Calcium (Ca)	2,200
Magnesium (Mg)	1,200
Sulphur (S)	2,000
Free SO_2	1,000
Total sulphur (mineral and organic)	10,500

Mr. Melville C. Whipple, who analyzed a sample of the waste sulphite liquor at one of the mills on the Black River, New York, found that it had an iodine absorption equivalent to 224 parts per million of SO_2.

As far as the speaker is informed, no successful method of utilizing or treating sulphite wastes has yet been devised. Its acid condition precludes the use of bacterial methods without prior neutralization and its large quantity of soluble matter makes settling processes of little avail. Evaporation, which is an expensive process, seems to be a necessary preliminary to any method of utilization. The use of detention tanks for equalizing the discharge instead of allowing heavy discharges to occur at intervals, is of some benefit but does not solve the problem. If one considers the damage done and also the value of the substances wasted, it is evident that the prevention of pollution by pulp-mill wastes is worthy of careful study by chemical engineers. Sutermeister states that, in Europe, mills have been obliged to close, because it has been impossible to purify the waste liquors sufficiently to comply with legal requirements. Attempts have been made to use the sulphite liquor as a road binder, a binder for moulding sands, a binder for powdered coal, a fertilizer, a sizing for paper, a food for cattle, a source of dye-stuffs, a material for insulation and artificial leather, or a scource of alcohol. The speaker has no practical suggestions to make at this time on the utilization and treatment of wastes but, instead, will discuss briefly the effect of sulphite wastes on streams.

Effect of Sulphite Waste on Streams

The peculiar character of waste sulphite liquor is its sulphur content, its acidity, and its high organic content. Sulphite mills and often the villages in which they are located, reek with the characteristic odor. Sulphurous acid escapes into the air in such quantities that the water supply, used for process purposes, when exposed to the air, absorbs it, the natural alkalinity of the water being reduced by measurable amounts. Sulphur in other forms may also be absorbed by the process water, partly from the air, but even more from the pulp during the washing processes. One consequence of this is, that the troughs and channels and even the screens and wash-boxes in a pulp mill become coated with slime which is shown by the microscope to consist of *Beggiotoa, Sphærotilus, Leptomitus,* and other fungi which require sulphur for their growth. The slime problem is often serious in pulp mills and frequent shut-downs for cleaning purposes are required. The slime becomes dislodged from the troughs and settles on the pulp blankets, making dirty spots which affect the sale of the product and sometimes require the pulp to be re-washed. A few years ago, at one of the Canadian pulp mills, the speaker experimented on the control of slime growths by the use of copper sulphate coupled with other chemical treatments, but this experimental work had to be given up on account of the World War. Sufficient was accomplished, however, to warrant the statement that the slime growth can be controlled by proper treatment.

Growth of Algæ

It is a fact which is more than a mere coincidence, that these three filamentous fungi, *Sphærotilus, Beggiotoa, and Leptomitus,* found in the water of pulp mills, are also found in sewage polluted waters. Together with *Thiotrix* and, perhaps, *Saprolegnia,* they appear to require sulphur and, either by choice or effect, are found in waters of low dissolved oxygen content. These fungi are often found on sticks and stones in the streams below sulphite mills, appearing as clumps or tufts of fibers, sometimes white like cotton, but more often cream-colored, gray, or salmon pink. When they decay, they blacken and become foul smelling, a condition usually associated with septicity, that is, with lack of oxygen and bacterial decomposition.

Deposits of pulp sometimes occur below sulphite mills where there is slack water. The shores often become covered not only with the fungi mentioned, but with growths of *Oscillaria,* the long bluish-green filaments of which enmesh the pulp. In the sunlight, bubbles of oxygen are generated, which also become enmeshed and

float great masses to the surface of the water. Various animal forms take shelter in these oxygenated masses, and other algæ grow on them until they become great centers of microscopic life. If there are other pulp or paper mills down stream, the quality of the water at the lower mills is likely to be seriously impaired for washing purposes. These growths can be kept down by the proper application of copper sulphate.

The practical effect of discharging sulphite wastes into rivers depends on the various factors already mentioned. One effect is to make the stream unsightly by reason of deposits of pulp and fungi and the algæ growths previously mentioned, and if a stream once becomes foul in this way, it tends to become a catch-all for many kinds of débris and filth. Uncleanliness is contagious. M. O. Leighton, M. Am. Soc. C. E.,[2] described the effect of the pollution of Ausable River with sulphite wastes for a distance of twenty miles, and even into Lake Champlain. He also described the pollution of Bouquet River with soda pulp wastes. Some thought at one time that it increased the algæ growths in the lake, but this was never definitely proved. Phelps[3] has also written on the general subject of sulphite pulp wastes and has described processes and proposed methods of treatment.

Effect on Fish

Pulp-waste pollution tends to drive away fish. The fine pulp gets into their gills and the sulphite pollution may kill them by exhausting the dissolved oxygen. The New York Conservation Commission has recently assembled data showing the tolerance of certain fish to industrial wastes and among them are the following: Bass, perch, and trout were killed in about 1 day by sulphite wastes diluted 10 to 1 when diluted 75 to 100 trout fry and bass were killed in several days. Dilution of 100, 200, and 500 to 1 did not kill perch in several days. That death was due to suffocation rather than poisoning was indicated by the fact that a 50 to 1 dilution of the sulphite liquor artificially aerated did not kill perch or bass in 29 days. Bleach sludge diluted 500 to 1 failed to kill perch in 14 days, and aerated bleach sludge diluted 400 to 1 did not kill perch in 5 days. Even if the dilutions are far greater than these figures, sulphite wastes may tend to drive away certain kinds of fish which, like trout and salmon, apparently seek pure waters. There can be no doubt that there are selective differences among fish as to oxygen requirements. It is said that certain of the grosser fish are capable of tolerating pulp-mill wastes, but acquire disagreeable tastes which make them non-edible.

Effect on Water Supply

Sulphite wastes may also injure the water of a stream in its use as a boiler water. In at least one instance, such wastes have been known to make the water of a large stream acid, and the damage done by them is often more subtle than that produced by the gross pollution in the vicinity of the mill. The salts of lignin-sulphonic acid, or whatever the compounds may be which result from the action of the acid bisulphite on the lignous and resinous compounds of the wood, have a most persistent odor; even when the sulphite wastes are greatly diluted, it can still be recognized. Formerly, the water supply of Augusta, Me.,[4] was taken from the Kennebec River, and the imperfectly filtered water often had a noticeable taste and odor resulting from the pulp-mill wastes at Winslow, 17 miles up stream. The water supply of Bangor, Me., is taken from the Penobscot River, and before filtration has the same characteristic taste. At times, the alkalinity is materially reduced and the coagulation of the water rendered difficult. At Watertown, N. Y., the Black River, polluted by sulphite wastes at Deferiet, Herrings, Carthage, and Lyons Falls, has the same taste and odor, which the filter has never been able wholly to remove. The odor is not removed by aeration and the use of chlorine seems at times to intensify it. The municipal authorities of Augusta wisely abandoned the Kennebec River supply and substituted a supply from a pond not far away. At Bangor, in spite of advice to seek another source, the Penobscot supply has been retained and improvements made in the filter plant.

Unfortunately, it is not the odor alone which causes trouble with downstream water supplies. The sulpho-lignous organic matter interferes with the coagulation of the water, reducing the efficiency and increasing the cost of filtration. The exact nature of the reactions has not yet been accurately determined, but some studies have been made at the Watertown filter, which have led to modifications in the process and improvements in the results.

The water of the Black River is deeply stained, its average color being about 80 and its maximum color in different years running up to 135. The quantity of carbonaceous organic matter in the water is greater than that represented by the color. In a discussion[5] by the speaker before the Society in 1901, on decolorization of water, it was shown that in stained waters the organic matter, as indicated by the "oxygen consumed" test, was 0.125 part per million for each unit of color; but, at Watertown, tests have shown that the oxygen consumed corresponding to a unit of color is often double this quantity. The oxygen consumed is also higher at seasons of low stream flow, when the dilution is less than at other times. Some of the colorlesss organic matter found at Watertown may be due to sewage pollution, but inasmuch as sulphite waste shows a high figure for oxygen consumed, it is reasonable to suppose that these wastes are an important factor in the Black River. There are visible evidences of this pollution at the Watertown filter, as particles of woody fiber from the waste pulp can be easily detected by the eye; in fact, the superintetndent of the filter is in the habit of making a daily record of the approximate quantity of pulp observed in the raw water. Phelps has shown that the "oxygen consumed" in sulphite waste liquor is from 36,000 to 60,000 parts per million; therefore, even after being diluted several thousand times, the water would contain as much organic matter, measured in terms of "oxygen consumed," as would correspond to a color of 100 units. It has been found, as a result of filtration experience, that the quantities of alum required for the coagulation of unstored colored waters free from sewage and industrial wastes, ordinarily bear a fairly definite relation to the color of the water; but in the case of the Black River water, the quantity of alum required is relatively great, largely because of the organic matter from the sulphite wastes. When the water filters were designed by Allen Hazen, M. Am. Soc. C. E., in 1903, it was decided, as a result of experiments made with colored waters, that a period of coagulation of 4 hours would be required, a time considerably longer than previous practice. Experience, however, has proved that even this was not long enough. In 1917, an existing settling basin was converted into a coagulation basin which increased the period of coagulation to about 8 days, and the results of this longer period have proved to be beneficial. Better results have been obtained, although the quantity of alum used has not been lessened. It will be seen, therefore, that, in various ways, sulphite waste pollution increases the cost of water purification.

This is not the whole story, however. Unless coagulation is well accomplished, that is, unless enough alum is used and the time of coagulation is sufficiently long, some of the alum in combination with the organic matter will pass through the filter. Three objectionable results follow, namely, the filtered water retains some of the "pulp-mill taste"; the water when heated for ordinary domestic service becomes corrosive, attacks iron, and causes red-water troubles; and the bacterial removal by filtration is not complete. These are all serious matters. Even with what is regarded as good coagulation, the sulphite taste may persist in filtered water.

[2] "On the Pollution of Lake Champlain," *Water Supply and Irrigation Paper No.* 121, U. S. Geological Survey, 1905.

[3] "The Pollution of Streams by Sulphite Pulp Wastes," *Water Supply and Irrigation Paper No.* 226, U. S. Geological Survey, 1909.

[4] "Quality of the Kennebec River Water," *Water Supply and Irrigation Paper No.* 198, U. S. Geological Survey, 1907.

[5] *Transactions,* Am. Soc. C. E., Vol. 46 (1901), p. 141.

At one time, as a result of experiments at Watertown, it was thought that basic alum was generally preferable to acid alum for water-filtration purposes. Later studies have made this doubtful. There are times, perhaps, when an acid alum may give better results than a basic alum, waters differ in this respect. With alum made at the filtration plant, as is now often the case it may be possible to modify its character so as to obtain the best results for any particular water.

Engineers once thought that they had obtained a fairly complete understanding of this problem of coagulation, but experience with mechanical filters, although on the whole successful, has shown that there are many things to learn about coagulation, especially the coagulation of soft, colored waters and waters polluted with such wastes as those from pulp mills. The nature of the colloidal substances, the possible protective effect of colloids on bacteria, the relation between chlorine and organic matter, and the reaction between sulphate of alumina and organic colloids, are some of the subjects which chemists and biologists now have under consideration.

Enough has been said, perhaps, to show that the pollution of streams by pulp-mill wastes is a matter which may cause damage to down-stream riparian owners and affect the health and comfort of many people in communities which take their public water supply from polluted rivers. It also has a bearing on the general problem of conservation of natural resources. Pulp mills not only spoil the rivers, but they despoil the forests. Wood pulp is a useful substance, but there is hardly any raw material that is wasted so lavishly. Without doubt, chemical engineers can solve the pulp-mill pollution problem if capitalists will provide the means, the laws are ample to protect the down-stream riparian owners if they are enforced, but, in the speaker's opinion, a better solution of the problem lies in preventive measures, that is, in measures which will protect the forests. Conservation demands that tree trunks suitable for lumber be used for that purpose. It is necessary to find methods of obtaining cellulose such that the newspaper which is in use a day and the paper towel which serves the purpose of a moment are not made at the expense of a tree which has taken twenty years to grow.

Stream Pollution

The speaker may be wrong, but it appears to him that there is now a greater indifference to stream pollution, a greater laxity in enforcing laws, than was the case before the World War. Probably, this is merely a part of the widespread lapse from law and order unfortunately so prevalent at this time. It is a condition which must not be allowed to continue. The pendulum may swing, perhaps, from too much laxity to too much rigidity. The present is a good time, therefore, to consider carefully in a broad spirit of co-operation and in a scientific manner, the best way of dealing with the whole subject of stream pollution. Certain things have been demonstrated by experience. The pollution of a stream may steadily increase without serious offense and without attracting much attention, until suddenly a crisis is reached, the dissolved oxygen disappears from the water and the river is wrecked. It has been learned that it is cheaper and safer to protect a down-stream water supply by filtration than by up-stream treatment of sewage, but that a single line of defense is not enough. It has been learned that many kinds of manufacturing wastes impart tastes and odors to waters, which cannot be readily removed by water filtration and that chlorination sometimes accentuates them, and that these tastes and odors may be produced even when the polluting substances are very dilute. It has been learned that river-pollution problems are not all related to the public health. It has been learned that because rivers flow between States and from one State into another, the control of pollution by independent State action is not adequate to meet the situation, and yet the police power resides in the sovereign States. It is evident that some new mode of procedure is necessary to deal with the situation; yet it is doubtful whether any better legal remedies will ever be devised than the application of the principles of common law and the exercise of police power by the separate States. The speaker does not favor delegation of the police power to the Federal Government in this matter, and, at present, the powers of the Federal Government are limited to navigable streams.

Policy Suggested

A uniform policy throughout the country is much needed. To secure this, a thorough scientific, economic, and legal study of the whole subject of stream pollution should be made on a National scale by a joint committee representing the National bodies interested in the different phases of the subject, under the sponsorship of one of the Federal Departments with Congressional authority and an adequate appropriation. This committee, after several years of investigation, should formulate a policy, suggest model laws, and recommend their adoption by the several States. It may be possible to organize river districts independent of State boundaries, with commissioners whose duties would be to secure co-operative efforts to keep the rivers clean and to utilize the waters of the streams to the best advantage of all the people living within the districts, leaving all legal actions where they now are and where, in the interest of good government, they should remain. The whole subject at present is in a chaotic state. Some State Departments of Health attempt to exercise almost despotic powers over the streams; in other States, their action is chiefly advisory; and, in some States, there are pollution commissions independent of the health authorities. Although there has been a recent laxity in law enforcement, it is hoped that the next move will not be toward a too arbitrary enforcement of ill-considered laws, but that means will be found to accomplish by co-operative effort what is so difficult to accomplish by law. It would appear that the Society is one of the organizations which should take the lead in this important matter of conservation.

What Is a Cunit?

New York, September 15, 1924.

EDITOR PAPER TRADE JOURNAL:

I have been reading with much interest the item on page 44 of the PAPER TRADE JOURNAL of September 11 entitled "Cunit," and take it that you will not object to a little more information on the subject.

For several years the News Print Service Bureau, through a very competent committee, has been making a study of logging costs from the accounting standpoint, in the endeavor to devise standards of procedure somewhat comparable to those which have been set up in paper mill accounting. The attempt is of unusual difficulty because of the wide divergence in physical factors, methods of woods operating, timber stands, etc., and especially because of the lack of a common unit of measurement. The most widely used unit for pulpwood is a "cord," but this always has to be qualified by a statement as to the kind of cord referred to. Pulpwood is also measured in thousand feet, log scale, according to one of several different scales, and then figured into cords by a conversion factor which varies with the locality.

After giving these practices full consideration, the Bureau Committee decided that for comparative accounting purposes the best unit of pulpwood measurement is 100 solid cubic feet of wood for which Mr. Halligan suggested the term "Cunit." The prize referred to was given by the *Pulp and Paper Magazine*, which, entirely on its own responsibility, offered a prize last winter for a suitable term to apply to this quantity of pulpwood.

You will see, therefore, that the term "Cunit" is purely a handy one for comparative, statistical, and accounting purposes, and is not intended to affect in any way the methods of conducting woods operations.

Sincerely yours,

R. A. KELLOGG,

Secretary News Print Service Bureau.

CURRENT PAPER TRADE LITERATURE

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts of Literature of the Technical Association of the Pulp and Paper Industry

CLARENCE J. WEST, Chairman

Special Papers

Slat Drier for Drying Paper. J. W. Vedder. U. S. pat. 1,453,645, May 1, 1923. The main characteristics of this drier are that it is supported on a hollow shaft with two open drum heads, substantially in the form of pulleys, so that both ends are driven from the shaft and not by means of the slats as previously; and the shaft is perforated and used for injecting hot air inside the drier to accelerate drying, fan blades being keyed to the shaft or attached to the spokes of the drum heads to facilitate elimination of the moisture-laden air. With very wide machines, intermediate drum heads are provided to support the slats.—A. P.-C.

Steam Drying System for Paper Machines. H. Liebeck assignor to Scott Paper Co. U. S. pat. 1,457,779, June 5, 1923. The drying cylinders are arranged in groups to constitute a series of sections. Normally, the steam having passed through the first section (at the dry end) passes through the second section, and from there on to the third section, and so right down. But valves and bypasess are provided so that the sections may be variously grouped, or even all the driers may be combined into a single section, all of them receiving steam directly from the primary supply. A suitable trap is provided for removing the condensate from each section.—A. P.-C.

Apparatus for Use in Drying Printed Wall Paper. J. Shcrrock. U. S. pat. 1,424,724, Aug. 1, 1922. The patent covers mechanical features in the construction of the feed and delivery ends of festoon driers, whereby the printed paper is delivered to the supporting rods which carry it through the driers and then removed from these rods.—A. P.-C.

Copying Paper. W. Hargrave. Eng. pat. 196,492, May 12, 1922. A permanent copy of written or printed matter is obtained by employing a sheet which is to receive the copy and an intermediate sheet which are treated with separate chemicals, for instance, solutions of iron sulphate and tannin, respectively, which interact to form an ink. The intermediate sheet may be smeared with glycerol, and a small quantity of soluble black or other dye may be added to the tannin.—A. P.-C.

Imitation Parchment Board. R. Beardsley. U. S. pat. 1,471,021, Oct. 16, 1923. An embossed, cut and colored paper board is immersed in a hot bath of equal parts of white boiled linseed oil and white paraffin at a temperature of about 32° C. and then immediately immersed in a cooler bath of white boiled linseed oil and white paraffin, dried and then treated with a hot iron in spots on one side of the board and with absorbent material on the other side to withdraw a portion of the oil and produce a mottled effect. After this treatment an oil-solvent stain such as an alcoholic dye solution is applied.—A. P.-C.

Process for Rendering Paper Waterproof. J. A. Vielle. Eng. pat. 209,138, Sept. 7, 1922. Paper is waterproofed by spraying, painting, or otherwise treating with artificial aqueous colloidal dispersions of insoluble waterproofing agents such as waxes, resins, fatty acids, bituminous substances, etc., with or without addition of rubber, linseed oil, coloring agents or fillers. Protective colloids may be used during the dispersion process, which is preferably effected in a Plauson mill. Molecular or colloidal solutions of fireproofing agents may be incorporated. Example: 10 lb. of paraffin wax, 10 lb. of water, and 13 oz. of gum arabic are beaten in a colloid mill for 2 minutes at 80° C.; alternately the gum arabic may be dissolved in the water and treated in the mill, the paraffin wax being added in a molten condition.—A. P.-C.

Hard Sheets From Fibrous Materials. Christoph and Unmack Akt. Ges. Ger. pat. 388,449. *Papierfabr.* 22, No. 63 (Feb. 17, 1924). The fibrous sheets are soaked under pressure in an oil bath at 20 to 50° C. They are then dried in the air, sized under pressure, and again dried.—J. L. P.

Process of Covering Parchment Paper With Bronze or Dye Powders Carl Eckert. Ger. pats. 388,175 and 388,216. *Papierfabr.* 22, No. 50, (Feb. 10, 1924). The sheet of parchment paper, or the like, is passed through a box-like contrivance which is provided with a rotating fan for distributing evenly the powdered substances, as bronze or dyes.—J. L. P.

Cigarette Wrappers From Waste Tobacco. Hermann Meyer. Ger. pat. 388,104. *Papierfabr.* 22, No. 33 (Jan. 27, 1924). Disintegrated and washed waste tobacco and tobacco dust are treated with fillers and sizing substances and converted into a sheet, which is sufficiently durable for wrapping cigarettes. The bleaching and boiling operations are omitted.—J. L. P.

Pliable and Elastic Paper. Emil Vater. Ger. pat. 388,106. *Papierfabr.* 22, No. 34 (Jan. 27, 1924). Paper, especially for technical and industrial uses, is prepared from rags, hemp, jute, etc. (excluding sulphite pulp), and soaked under definite conditions in benzine, glycerine, and paraffin.—J. L. P.

Manufacture of Waterproof Paper, Pulp and Similar Sucstances. August R. Muller. Ger. pat. 388,063. *Papierfabr.* 22, No. 34, (Jan. 27, 1924). Paper or pulp is soaked in benzol or creosate oil which contains dissolved pitch, and then is exposed in an oven at a temperature of at least 120° C. until the solvent has evaporated. —J. L. P.

Manufacture of Safety Paper. "Archimedes" Unternehmung. Ger. pat. 388,099. *Papierfabr.* 22, No. 34 (Jan. 27, 1924). Before the paper sheet passes to the first press roll small metallic fragments, the thickness of gold leaf, are scattered on its surface.—J. L. P.

Process for Making Synthetic Leather. H. W. Morgan. U. S. pat. 1,436,106, Nov. 21, 1922. Fibrous material (sawdust, rope, grass, straw, hemp, etc.) is treated first with a caustic soda solution, and then with dilute acetic acid (or other organic acid) with or without addition of an organic solvent, for a time depending on the degree of strength and flexibility required. The resultant plastic mass is worked up with a solution of a gum in a volatile organic solvent, allowed to stand in air to evaporate part of the solvent and then rolled out into sheet form and finally dried at suitable temperature. It is claimed the product has the strength, flexibility and wearing qualities of natural leather, and moreover is waterproof.—A. P.-C.

Miscellaneous

Method of Pumping Slush Pulp. P. C. Schaaning. U. S. pat. 1,466,413, Aug. 28, 1923. To prevent pulp from settling out in the piping, air is injected in the pipe at suitable points in the direction of flow of the stock.—A. P.-C.

A Correction

In the article "Test of Waterproofed Paper" which appeared in the Technical Section September 4, a slight error was made in the caption under Fig. 2 which should have read "Photograph Illustrating the Proposed New Method for Testing Paper for Water Resistance." Members who preserve the section are requested to make this correction in their copies.

Section of the

COST ASSOCIATION OF THE PAPER INDUSTRY

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THE AMERICAN PAPER AND PULP ASSOCIATION

Conducted by THOS. J. BURKE, C.A., Sec-Treas

OPERATING CONTROL THROUGH SCIENTIFIC ANALYSIS*

By W. H. JUSTIN

In these days of world reconstruction, political, social and economic chaos abroad, and the resultant instability at home, anything that is manifestly an improvement over old methods or a constructive criticism of them should be hailed with delight by those to whom it applies and be woven into the fabric of their every-day affairs.

It may be taken for granted that the accounting profession is ever reaching out for new methods to solve the new as well as the old problems; that, like all other human activities, it is ever in a process of evolution; and that, as time passes on, the antiquated methods are discarded one by one, as developments prove them to be inadequate to the purpose for which they were designed.

In the old days the scythe and the flail were deemed sufficient for the harvesting of grain, the horse sufficient for all transportation facilities, the letter for all communication, and so on. Likewise, in those same good old days, it was deemed sufficient that the business man, the manufacturer or the merchant, should once each year cast up his accounts, or have it done for him, and from the results thus obtained boast of his past financial achievements and speculate on his future conquests.

In all these activities science had very little to do. But, in the passing of time, the harvester has taken the place of the scythe and flail; the locomotive, the automobile and the air craft have supplanted old Dobbin; and the telephone, the telegraph and the wireless have come to the assistance of the modern business man, helping him to solve the problems of quicker communication. Also, industrial management, in these days, is under a scientific control no less exact than that which carries the wireless message from the broadcasting station to the ear of the listening multitude.

Thus we have emerged from the more or less primeval day of commercial boasting and non-commercial speculation to the present day when science stands at attention, enabling us to apply the acid test to the past commercial achievement and at the same time to determine whether the plan for future commercial conquest is founded upon the rock of sound business judgment or upon the shifting sands of imagination and fancy.

Scientific research has come to the aid of the industrial engineer as well as of the electrical engineer. He need no longer be in doubt as to his achievements, for he can test them; nor as to his ambitions, for he can measure them. It has been a matter of only a little more than a decade since various far-sighted institutions began assembling data whereby industrial analyses could be made, enabling one to determine, not only the standing of a given unit in an industry at a given moment, but also, with a precision no less exact, enabling one to point out the course that has been pursued and the rate attained in reaching that standing, and, by the same means, enabling one to foretell the fate of that industrial unit; that is, whither it is bound and what factors are accelerating or retarding its progress.

The balance-sheet of an industry is the summation of that industry's activities. It shows, or should show, not only the position attained by an enterprise, but also the manner of reaching that point and the direction in which the enterprise is headed. It should be made to answer the vital question, "Whence come you and whither are you traveling?" as well as merely the categorical question, "Where do you stand?"* If, by the proper use of available data, one can construct a composite balance-sheet for a given industry, and then, by the proper use of analytical ratios, establish the degree of normalcy attained by an individual unit of that industry, it would appear that the balance-sheet becomes a vital, throbbing, living index of industrial activity and its use much greater than merely determining the position attained.

The various institutions and individuals that have been most far-sighted in these matters have assembled data of great value to the industrial managers in the various fields covered and of inestimable value to those whose duty it is to make a scientific analysis of an industry or an analysis of the success or failure of an individual unit of such an industry.

For the purpose of such an analysis we will take up the flour milling industry. In name no more prosaic industry could be selected; but in achievement hardly any other industry offers such a wide range of development over such a long period of time. As a basis for this analysis, the following composite ratios are produced.

*COMPOSITE BALANCE-SHEET RATIOS—*FIFTY-SEVEN FLOUR MILLS

Static Ratios	On Monthly Basis	On Annual Basis	Basic Conclusions Drawn from Ratios, and What They Indicate
Current assets to current liabilities	2.05 to 1	.....	Margin of safety to creditors.
Merchandise to receivables	1.99 to 1	.....	Progress of collections.
Net worth to liabilities	3.57 to 1	.....	Margin of safety to owner, or extent to which creditors are financing company. Excess indicates owners' working capital.
Velocity Ratios			
Net sales to receivables	2.28 to 1	27.36 to 1	Liquidity of collections, or terms of credit granted.
Net sales to merchandise	1.10 to 1	13.20 to 1	Rapidity of merchandise turnover.
Net sales to net worth	.37 to 1	4.44 to 1	Activity of owners' investment.
Net sales to fixed assets	.51 to 1	6.12 to 1	Company's general competitive position, or productivity of plant.
Efficiency Ratios			
*1. Operating profit to net worth (Investment ratio)	.0098 to 1	.1176 to 1	Return on capital invested, or financial efficiency.

*From the *Journal of Accountancy*

*2. Operating profit to net sales ..... (Loss and gain ratio)	.0390 to 1	.0390 to 1	Return on volume of business, or sales efficiency.
*3. Operating expense to net sales ..... (Expense ratio)	.0995 to 1	.0995 to 1	Operating efficiency.

*1. See Bliss' financial and operating ratios, p. 251, 7 mills, 7 years.
*2. See Bliss' financial and operating ratios, p. 260.
*3. Federal trade commission's report and files of milling journals.

These ratios are compiled from data covering fifty-seven flour mills of this country. No mill of less than eighteen hundred barrels daily capacity was considered. And when we stop to consider the fact that there are less than one hundred flour mills in the United States of a capacity greater than eighteen hundred barrels daily capacity, we shall have to admit that the data entering into these composite ratios are not only representative but trustworthy.

These composite ratios are grouped according to the facts they disclose. First, we have the four static ratios; next, the four velocity ratios, and last, but not least, the three efficiency ratios.

The static ratios, as is well known, merely indicate the present momentary standing of the concern under process of analysis; the velocity ratios indicate the direction in which the concern is going and how fast it is making the trip; while the efficiency ratios indicate the degree of efficiency attained in the financing, the selling and the operating departments of the concern.

It must be remembered that while the analysis presented in this paper concerns the flour-milling industry, the fundamental principles abstractly considered are as applicable to any other industry as to that of flour milling; and it must also be remembered that no trade secrets are divulged; everything contained herein has been gathered from published reports, either by the companies themselves, the milling journals, or the federal trade commission.

The Working-Capital Ratio

First, we shall take up the much vaunted and greatly overworked current ratio, called also the working-capital ratio. It is well to remember that this ratio has been in the minds of accountants, credit men and business men for many years. There is nothing new about it. One should remember also that business men generally have arranged for the fiscal closing of their books to be at such a season of the year as will allow them to show the greatest possible working-capital ratio, for they have been educated to the belief that in seeking credit this ratio is the one that receives the greatest consideration by the credit grantor. In keeping with this erroneous idea the practice of *window dressing* has become more or less common. By this practice the much coveted two-to-one proportion is brought about, sometimes by means that are neither sound nor ethical. Alexander Wall illustrates this by the story of the credit-seeking company which, just before the closing of its books, had friends temporarily take over certain securities and merchandise of the company, and with the proceeds thus obtained paid off a corresponding amount of the liabilities, thus bringing about a higher ratio of current assets to current liabilities. For, when the current assets are in excess of the current liabilities, the subtraction of equal amounts from both will result in a higher ratio, as the following example will show:

	Current Assets	Current Liabilities	Ratio
	$20,000	$8,000	2:5 to 1
Deduct	5,000	5,000	
Result	$15,000	$3,000	5.0 to 1

But the reverse of this is not true, for if the current assets are less than the current liabilities the subtraction of equal amounts from both will result in a lower ratio.

James H. Bliss in his "Financial and Operating Ratios in Management" shows this ratio to be 1.98 to 1. This average is for a group of seven mills covering a period of nine years. These ratios run from 1913 to 1921, apparently without any regularity whatever. It will be noted that the average, as established by Mr. Bliss, lacks only .02 of equaling the coveted goal of "two to one," while our average is .05 in excess of that goal. One thing, however, that should be remembered is that a ratio of approximately 2.05 between current assets and current liabilities is a healthy, normal average for the milling industry.

Now, what may we learn from this ratio? It is called the working-capital ratio because the difference between the current assets and the current liabilities represents the working capital of an industry. Obviously, the further this ratio recedes from the normal average the less healthy is the condition of immediate liquidation of debts; and should the ratio decrease to unity, the condition no doubt would be such as to make the prompt payment of debts somewhat slow. On the other hand, the higher the ratio, the healthier the condition of liquidity; and the debts of the concern naturally would be met more promptly, bills being discounted instead of being allowed to become past due and stale.

But, however important this ratio might seem to be, it would be very unwise to pin one's faith to it, as the other static, velocity and efficiency ratios, might disclose a condition which would discount this ratio, and even though it should show a five-to-one result, it might be that a judgment based on it alone would be far from correct.

Merchandise to Receivables

The second static ratio is that of merchandise to receivables. Mr. Wall speaks of this ratio in inverse terms; that is, receivables to merchandise. But from my analysis, the merchandise is always in excess of the receivables in the milling industry; and in keeping with the general idea of placing the larger of the terms as the antecedent and the smaller as the consequent, I prefer the ratio expressed as merchandise to receivables.

This ratio, as shown by the analysis, stands as 1.99 to 1. Thus the average merchandise inventory at a given time is nearly twice the amount of the receivables inventory at the same time. The fact that sales in this industry are on neither a cash basis nor an open-account basis, alone, explains this. Many of the sales are for cash on arrival of goods at destination. Especially is this true of the carlot trade. Hence we would not expect to find at any given moment outstanding receivables equal to the merchandise inventory. As will be seen later, the merchandise turnover is 1.10 monthly, or 13.20 annually, which is at the rate of a complete turnover every twenty-eight days. This is an approximate monthly turnover, and inasmuch as the ratio of merchandise to receivables is 1.99 to 1, the average turnover of the receivables would be only one-half as great, were it not for the cash sales, which do not show on the books as receivables at any time.

It appears that since practically 48 per cent of the net sales are of this class, by eliminating this percentage the true ratio of open-account sales to receivables becomes 1.186 monthly, or 14.23 annually; that is to say, there is a complete turnover of receivables every twenty-six days, the average time outstanding for open-account items. This would indicate that a large proportion of those sales that are made on open account is paid for before the expiration of the regular thirty-day term of maturity, for it is a well known fact that many run beyond that period.

Since the ratio of sales to merchandise indicates a turnover every twenty-eight days, and since the ratio of open-account sales to receivables indicates a turnover every twenty-six days, it appears that the ratio of merchandise to receivables is a well-balanced ratio and represents the true condition of liquidity of receivables, namely, that open-account sales are made on a uniform monthly basis, that slightly more items are paid for before maturity than are allowed to go beyond that maturity (accounted for by the regular trade discounts), and that the merchandise inventory is kept practically at such a volume as to satisfy the requirements of one month's sales.

Net Worth to Liabilities

The next ratio to be considered is that of net worth to liabilities. Here again I have placed the larger quantity as the antecedent and the smaller as the consequent. As long as this ratio is one or greater, dry rot has not yet set in. However, if this ratio falls below unity, it indicates that creditors are financing the concern to

greater degree than the owners themselves—hence the basic conclusion that this ratio shows the margin of safety to the owners and at the same moment the degree to which creditors are financing the individual enterprise. In this industry the average ratio of net worth to liabilities is 3.57 to 1. This would indicate a healthy industrial condition. We must remember that in the conduct of most business enterprises there is usually a dual ownership—that represented by the capital invested by the nominal owners and that represented by the capital advanced by the creditors to the nominal owners. If the liabilities of an enterprise are equal to the net worth, it is obvious that the creditors' ownership is in reality equal to the stockholders' ownership, and that they should therefore, theoretically at least, have as much to say in the conduct of the business as the nominal owners themselves.

This fact has given rise to the practice among creditors of cooperating with one another and with the debtor company at any time when this ratio has fallen dangerously close to unity. One writer on this subject has said that for the liabilities to approach as nearly as 75 per cent to the net worth would indicate a very unstable condition. But in the industry under consideration, since the ratio of net worth to liabilities is as 3.57 to 1, the liabilities are therefore only 28 per cent of the net worth. This shows conclusively that the industry is not in the habit of relying to an unsafe degree upon the goodwill of its creditors for the financing of its business.

Net Worth to Fixed Assets

Net worth to fixed assets is ratio No. 4. This ratio determines the industry's policy of investing its profits; it demonstrates that the industry either has or has not over-invested in plant and equipment. This ratio also brings out facts, with the velocity ratios to be discussed later, which will disclose whether or not the industry's profits are being dissipated. If an enterprise should be making large profits and those profits were not in evidence on the balance-sheet in the form of increase to fixed assets or current assets, or if they were not reflected in the surplus account, the undivided profits account or any reserve, it would be logical to conclude that they had been dissipated as rapidly as accumulated, perhaps by speculation or some other well-known brand of profligacy.

As Mr. Wall puts it: "It is not enough that an industry should show an increase in net worth; it must make reasonable disposition of this increase—not disbursing it in dividends to an abnormal degree and not transforming this additional capital into fixed capital beyond a reasonable proportion."

Now, in this industry, as in any other, if we find that the ratio of net worth to fixed assets is greater than unity, we know that the owner's investment is sufficient to offset the fixed or non-current assets. Any excess above unity in this ratio indicates the degree to which the current assets are the property of those who claim ownership. This ratio in the milling industry, as shown by the data assembled, is as 1.47 to 1, indicating healthy and substantial condition. In fact, the average net worth is almost equal to the combined value in excess of fixed assets is more than sufficient to liquidate all current liabilities. Expressed in another manner, if this ratio were only as 1.37 to 1, it would still indicate that the owner's investment in the industry was sufficient to cover the value of the fixed assets and pay off all liabilities. Hence, a ratio of 1.37 to 1, it seems, is a true measure of adequacy in this industry. Any decrease below this would seem unsafe, and the greater the decrease the greater the degree of instability; on the other hand, any increase above it would indicate additional safety and stability. The analysis, therefore, shows the average net worth of the industry to be 107 per cent adequate, that is, the ratio of 1.47 is 7 per cent in excess of adequacy, if adequacy may be expressed as 1.37 to 1.

Sales to Receivables

Let us now consider briefly the four velocity ratios. The first of these is sales to receivables. As has already been pointed out, this ratio, taken in conjunction with the static ratio, merchandise to receivables, indicates the progress of collections. The analysis shows a sales-to-receivables ratio of 2.28 to 1 monthly, or 27.36 annually. This would indicate a turnover of receivables every 13.34 days; but, as previously stated, 48 per cent of the sales in this industry are never shown as receivables, as they are made on a cash or arrival-draft basis. Hence only 52 per cent are open-account sales. This indicates an annual ratio of 14.23, a turnover of receivables every 26 days. This ratio indicates the liquidity of sales, that is, the comparative promptness of payment of the concern's outstanding invoices for goods delivered on open account. Inasmuch as the average open-account sale in this industry, as a whole, is made on a thirty-day basis, we would expect to find between open account sales and receivables a ratio of 12.7. But the ratio that we have found is 14.23. Hence, our ratio of sales to receivables is 117 per cent adequate, that is, it is 17 per cent more favorable than is necessary to meet the requirements of thirty-day terms of credit.

Sales to Merchandise

The ratio of sales to merchandise indicates the rapidity of the merchandise turnover. In the analysis we find this ratio to be as 1.10 to 1, which expressed in terms of days, means, as previously stated, that there are 13.20 stock turnovers per annum, or one every 28 days. As the sales are made on average 30 day terms the industry has only a month as a period of jeopardy. But the jeopardy of loss is minimized by the fact that the purchases are usually made only as orders are booked. Therefore, in this industry there is in reality no period of inventory jeopardy, the average inventory being approximately sufficient to fill the orders of only one month, the average term of the sale.

To put it differently, since the average ratio of sales to receivables is 2.28 monthly or 27.36 annually and since the policy of a concern would normally be to buy raw material only in such quantities as it may be sold and paid for as a finished product, we would expect to find between sales and merchandise a ratio equivalent to the sales-to-receivables ratio. But only 52 per cent of these being on open account, the ratio of sales to merchandise that we would look for in this industry would be 14.23. But we have found the ratio to be 13.20. This indicates a merchandise inventory 107.7 per cent adequate, or 7.7 per cent in excess of adequacy as expressed in volume of sales and terms of credit.

Net Sales to Net Worth

Net sales to net worth is the third velocity ratio and indicates the activity of the owners' investment. It is also a measure of efficiency of the sales organization, for from it one can determine whether or not the sales have decreased in volume to the point where the business has become sluggish. This ratio is .37 to 1 monthly or 4.44 to 1 annually. Thus there is a turnover of the net worth of the industry every 82.2 days. Since the first of the efficiency ratios shows a ratio of .1176 to 1 between operating profit and net worth, which is at a rate of 1.76 per cent, since it is generally conceded that a return of 12 per cent on an investment in a manufacturing industry is an adequate return, and, further, since any change in the net worth or the sales would correspondingly increase or decrease the investment ratio, we must concede that our ratio of net sales to net worth is an adequate ratio. In fact, it is apparent that it is more than adequate, for the investment ratio is based, as explained later, on operating profit (down to the point before the payment of dividends and not taking into consideration interest on investment).

Net Sales to Fixed Assets

The last of the velocity ratios, that of net sales to fixed assets, is indicative of a concern's general competitive position or the productivity of the plant. In this industry this ratio stands as .51 to 1 on a monthly basis or 6.12 annually. This indicates a turnover every 59.6 days.

Efficiency Ratios

I have designated the three following ratios as efficiency ratios

because of the fact that a certain phase of industrial efficiency is denoted by each.

1. The investment ratio, that of operating profit to net worth, indicates return on capital invested or financial efficiency. In determining the ratio, I had to resort to data outside the reports, as the reports analyzed showed a remarkable paucity of information dealing with profit. On page 251 of Mr. Bliss' statistics, "Financial and Operating Ratios," he analyzes seven mills over a period of seven years each and finds an average of 11.76 per cent per annum. One of these companies is the fourth largest mill in the United States and averages 12 per cent when standing by itself. The federal trade commission's report, which covers 130 mills over a period of five years, shows a ratio of .091 to 1, or 9.1 per cent. But since Mr. Bliss' statistics cover a later period, namely, the years 1918, 1919, 1920 and 1921, his average is made use of in this paper, though possibly the federal trade commission's average is as nearly correct.

2. The loss-and-gain ratio, that of operating profit to net sales, indicates return on volume of business or sales efficiency.

In determining this ratio it was again impossible to get the data necessary from the reports published. These data are not contained in any of the reports analyzed for the purposes of this paper. I, therefore, made use of Mr. Bliss' averages for the industries with a narrow margin of profit on sales. He averages four groups of this class of industry over a period of nine years and finds the average of 3.9 per cent as being indicative of surplus net profits earned on sales. But operating profit, as it is used throughout this paper, is equivalent to what Mr. Bliss terms *surplus net profits* (being the profits before deducting dividends). These averages are found in *Financial and Operating Ratios* at page 260.

The federal trade commission's report shows a ratio of .0406 to 1 or a rate of 4.06 per cent, but the commission's report covers only five years, 1913 to 1917 inclusive. To be consistent, I favor Mr. Bliss' averages. They cover a much longer period of observation.

3. The expense ratio, that of operating expense to net sales, indicates operating efficiency. As in the case of operating profits, when I undertook to determine composite operating expenses, I found that there was a dearth of data available for the purpose. But to complete the normalcy analysis it was indispensable to know the average operating expense.

I again resorted to the federal trade commission's report, which covers a period of five years. The commission found the operating expense to be 10.6 per cent of net sales, a ratio of .106 to 1. Desiring to test the accuracy of this ratio, the files of the milling journals were searched and they disclosed data, which when assembled made it possible to find an average ratio of .093 to 1 or a rate of 9.3 per cent, a difference of only 1.3 per cent. Desiring to incorporate both sources of information, I adopted the average of these two ratios, which is .0995 to 1 or a rate of 9.95 per cent. This ratio of operating expense to net sales is indicative of the degree of operating efficiency attained in the industry.

COMPOSITE BALANCE-SHEET RATIOS
Three Distinct Industries

Static Ratios	Milling	Stores*	Bakeries**
Current assets to current liabilities	2.05	3.66	2.35
Merchandise to receivables	1.99	3.125	8.33
Net worth to liabilities	3.57	3.03	5.26
Net worth to fixed assets	1 47	6.28	1.34
Velocity Ratios			
Net sales to receivables	2.28	.81	9.67
Net sales to merchandise	1.10	.26	1.16
Net sales to net worth	.37	.22	.29
Net sales to fixed assets	.51	1.38	.39
Efficiency Ratios			
Operating profit to net worth (investment raito)	.0098	....	....
Operating profit to net sales (loss and gain ratio)	.0390	....	....
Operating expense to net sales (expense ratio)	.0995	....	....

*University of Nebraska, 158 general stores. Velocity of ratios are expressed on monthly basis.

**Credit education committee, Omaha association of credit men, Nebraska bakeries.

COST SECTION

Now, having dwelt somewhat upon each of the groups of ratios, viz.—static, velocity and efficiency, it is fitting to ask whether or not can they be made to perform a useful function. I believe they can, for with the composite ratios of a given industry at hand, when analyzing an individual unit of that industry, it is possible readily to ascertain to what degree of normalcy the concern has attained; and, if abnormal or subnormal in any of its functions, one can readily locate the particular phases of the concern's activities that are not normal.

There are many phases of ratio analysis that I can not take up in this paper. But one must remember there are certain differentials that should be taken into consideration. These are known as the industrial differential, as is illustrated in the comparative composite balance-sheet ratios. Here are the ratios of flour mills, general stores and retail bakeries, shown in columns to show the differences between these industries. And it apparently would be misleading to consolidate these various industries into one universal composite, for the differences are so marked that no individual unit of any industry could be gauged by it.

Also, there is the geographical differential. To be exact, one should localize the units, bringing into the composite only those units of the same region or district. The business of a milling concern on the Pacific coast could not be properly analyzed by a comparison with a composite consisting of the mills of the interior of the country. They draw their supplies of wheat from different regions, different freight rates apply and the manufactured product finds its way into different markets where entirely different competitive factors enter into the business.

So also there is a seasonal differential. Perhaps it does not play so strong a part in the general analysis as one might suppose at first glance, for most concerns in a given industry are in the habit of closing their books at a time in the year when the maximum of advantage can be obtained by so doing; hence the analysis of a going concern's business would naturally be sought at that season of the year when it is the practice in that industry to make a cut-off of the business and determine its standing and its trend. This, however, would not hold good when the necessity arrives (as it very frequently does) for an accounting to be made on any day in any month. Here we have the seasonal differential playing an important part in the general analysis.

There is another differential that as yet has been kept somewhat in the background. We know that even in the same industry, in the same locality and at the same season, one concern may be prospering while another may not. The personnel of one organization may be made up of men of high efficiency while that of another may be made up of men of mediocre ability. For lack of a better name, let us call this the personnel differential. It may play an important part in the analysis of a concern's activities.

But even if there are differentials to be taken into consideration, we must recognize the fact that the scientific analysis of a business may be had, if one has at his command the composite of the industry under consideration; for it furnishes a standard of normalcy and any function of the concern that is not normal may be quickly determined and a remedy may be pointed out.

"Property Owner's Handbook"

"The Property Owner's Handbook" is the title of a new 32-page booklet issued by The American Appraisal Company, Milwaukee. This booklet is a record of thirty-eight profitable uses of American appraisals over and above the usual major applications of appraisal reports as embodied in the requirements of insurance, accounting, finance, purchase and sales, and taxation. All of the material presented in this booklet has been gathered from the Company's contact with its clients, and constitutes a collection of valuable suggestions which anyone responsible for the management of property will find of interest.

CHEAP NATURAL GAS FOR FUEL AT MONROE, LA.

Used under proper conditions, including modern equipment, gas is the best and cheapest fuel for manufacturing purposes. In many industries it is an essential fuel. The natural gas fields of the North and East are now more or less depleted, and for a cheap and assured supply of gas for generations to come, manufacturers should look to the South.

Greatest Known Natural Gas Field

Just a few miles north of Monroe, Louisiana, (which is to-day a thriving, bustling, growing city of 18,000) stretching up into the southern edge of the State of Arkansas, in the direction of the oil fields of El Dorado, is the greatest known natural gas field in the whole world. This field covers a proven area of more than 300 square miles, and has at present more than 250 wells with a rock pressure of 1,050 pounds—and the full extent of the field is not yet known.

Gas of Highest Quality

The gas in the Monroe field is of the highest quality. It is non-

LOCATION OF MONROE

poisonous and has a heating value of approximately 1,000 B. T. U. It is supplied to industries for from 5 cents to 8 cents per thousand feet.

The supply is assured. The size of the field, and the fact that it seems to be fed continuously from some vast and very deep source, together with the fact that active conservation methods are being taken under the direction of the State, assures that there will be an ample supply of gas here in almost unlimited quantities for industrial purposes for many years to come.

Excellent Opportunities Offered

That manufacturers are well aware of the excellent opportunities offered by the gas fields in North Louisiana is evidenced by the fact that at Monroe the Brown Paper Mill Company, Inc., has recently erected one of the largest paper manufacturing plants in the country at a cost of over $2,000,000. This is a 75-ton plant, for making a very high class of Kraft paper, with a paper machine that will run a roll of paper 16 feet wide, 1,000 feet per minute.

Fuel at Unusually Low Rates

The principle consideration for this company in installing this plant at Monroe was the fact that it could get natural gas for the plant at a very low figure, having, it is understood, secured a long-time contract at 6 cents per thousand. This is equal to paying about $1.25 per ton for coal; that is to say, the company gets the same heat values for $1.25 which it would get out of a ton of coal which would cost ten or twelve dollars plus the cost of putting it in the furnace, cleaning out the ashes, and other various costs of handling; hence, gas eliminates all these costs.

Then another consideration was the vast amount of cheap pulp wood in reach of Monroe. These people bought a tract of 27,000 acres of cut-over pine lands, which tract begins practically at the mill door and extends southwest for about fifteen miles. They figure that with the pulp wood which is now in sight on this land and which they could get on adjoining small acreage belonging to private parties, they will have a continuous run for an indefinite time, as the pulp wood on that size tract will grow nearly as fast as this mill will use it.

Favorable Paper Mill Location

Another sawmill company operating on what is known as Chenerie Lake only three miles further out from the Brown Company, is completing its cut this summer. This company has twelve or fifteen thousand acres adjoining the block owned by the Brown Company. This block of acreage almost entirely surrounds the Chenerie Lake, which itself covers about four square miles of territory, and has a large stream of water flowing through it which would furnish an abundant supply of water for a much larger paper mill plant than is being erected anywhere in this country. This lake is a natural basin which would be an ideal place for storing the water and liquids used by the paper mill. It is entirely surrounded by high and rolling lands, which are underlaid with a good gravel deposit. Artesian water can also be developed at from 350 to 700 feet in the same sand from which the Brown Company is developing its artesian water.

In addition to the land owned by the Brown Company and a little further south and west—in fact, extending over a hundred miles in that direction—there are several hundred thousand acres of cut-over pine lands belonging to other big sawmill companies and private parties from which a continuous and abundant supply of pulp wood can be had.

Cheap Transportation and Labor

Another consideration for the Brown Company placing a mill at Monroe was the Ouachita River Transportation, which is now being developed—the advantage of this transportation being a much lower freight rate for export and import, water-borne traffic. In view of the fact that the Dominion of Canada has placed an embargo on the exportation of pulp wood from that territory into the United States, it appears that the South will from now on be the center of paper-making operations; and henceforth paper industries must look to the South to a great extent for its supply of pulp wood, which will come off these great Southern cut-over forests.

Another consideration which will be very favorable to pulp and paper industries in this territory is the large amount of cheap labor which is available here. Practically all labor is native white and colored, which is perhaps the best type of common labor to be found anywhere in the country.

Paper Business Improving at Glens Falls

[FROM OUR REGULAR CORRESPONDENT.]

GLENS FALLS, N. Y., September 8, 1924.—Paper mill operations in this section are gradually but surely returning to normal. A slight improvement was noticeable during the week, an additional machine (No. 5) being started at the Fort Edward mill of the International Paper Company. Two machines are now running at this mill which was closed down during a large part of the summer. It is expected that the remaining machines will be started up in the near future and that the Fort Edward mill will soon be running at capacity. Improvements which have been under way at this mill are progressing rapidly. The electrical work is being rushed and will be completed at an early date, it is said.

Imports of Paper and Paper Stock

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING SEPTEMBER 13, 1924

SUMMARY

News print.....977 rolls
Printing paper.....632 rolls, 81 cs., 451 bls.
Wallpaper .....6 cs.
Filter paper.....12 cs., 7 rolls
Packing paper.....143 bls.
Wrapping paper.....1,819 bls., 145 bdls,. 38 rolls
Drawing paper.....102 cs.
Cigarette paper.....1,851 cs.
Baryta coated paper.....100 cs.
Tissue paper.....10 cs.
Paper hangings.....9 pgs., 5 bls., 2 cs.
Decalcomania paper.....3 cs.
Straw paper.....488 bdls.
Hanging Paper.....287 rolls
Parchment Paper.....20 bls.
Kraft Paper.....29 bls.
Blotting Paper.....51 bls.
Tinfoil Paper.....2 cs.
Metal Coated Paper.....4 cs.
Miscellaneous paper....147 cs., 485 rolls, 781 bls.

CIGARETTE PAPER

Miguel Costas & Miguel, Skipsea, Barcelona, 2 cs.

R. J. Reynolds Tobacco Co., Olen, St. Nazaire, 890 cs.

DeMauduit Paper Corp., by same, 159 cs.

American Tobacco Co., Olen, Bordeaux, 800 cs.

FILTER PAPER

A. Giese & Son, Olen, St. Nazaire, 7 rolls.

H. Reeve Angel & Co., Inc., Menominee, London, 12 cs.

PAPER HANGINGS

W. H. S. Lloyd & Co., American Farmer, London, 9 pgs.

A. C. Dodman, Jr., Inc., Aquitania, Southampton, 2 bls.

W. H. S. Lloyd & Co., Minnewaska, London, 3 bls.

W. H. S. Lloyd & Co., by same, 2 cs.

HANGING PAPER

Drinhausen Hollkott Paper Co., Orluta, Hamburg, 287 rolls.

WALLPAPER

F. J. Emmerich, Reliance, Hamburg, 6 cs.

PARCHMENT PAPER

Birn & Wachenheim, Lancastria, Hamburg, 20 bls.

NEWS PRINT

Seaman Paper Co., Lancastria, Hamburg, 40 rolls.

National City Bank, S. Ventana, Bremen, 287 rolls.

Parsons & Whittemore, Natirar, Kotka, 650 rolls.

PRINTING PAPER

Street & Smith Corp., Lancastria, Hamburg, 52 rolls.

Seaman Paper Co., Mongolia, Hamburg, 87 rolls.

J. H. Scott Paper Co., Mongolia, Hamburg, 292 rolls.

M. O'Meara Co., S. Ventana, Bremen, 50 cs.

Perry Ryer & Co., California, Glasgow, 232 bls.

J. Beecham, Rotterdam, Rotterdam, 5 cs.

J. H. Scott Paper Co., Reliance, Hamburg, 114 bls.

Oxford University Press, Celtic, Liverpool, 5 cs.

B. F. Drakenfeld & Co., Celtic, Liverpool, 12 cs.

Street & Smith Corp., Orluta, Hamburg, 66 rolls.

Drinhausen Hollkott Paper Co., Orluta, Hamburg, 68 rolls.

J. P. Heffernan Paper Co., Cleveland, Hamburg, 105 bls.

Keuffel & Esser, by same, 67 rolls.

Keuffel & Esser, by same, 9 cs.

WRAPPING PAPER

D. S. Walton & Co., Hellig Olav, Copenhagen, 106 bls.

C. K. MacAlpine Co., by same, 46 bls.

C. K. MacAlpine Co., Drottningholm, Gothenburg, 38 rolls.

Blauvelt, Wiley Paper Mfg. Co., California, Glasgow, 145 bdls.

Fernstrom Paper Co., Inc., Reliance, Hamburg, 1,483 bls.

Thos. Barrett & Son, by same, 184 bls.

PACKING PAPER

J. P. Heffernan Paper Co., Cleveland, Hamburg, 143 bls.

KRAFT PAPER

Parsons & Whittemore, Cleveland, Hamburg, 29 bls.

DRAWING PAPER

Keuffel & Esser, Cleveland, Hamburg, 66 cs.

E. Dietzgen & Co., McKeesport, Rotterdam, 32 cs.

H. Reeve Angel & Co., Inc., Minnewaska, London, 3 cs.

E. Dietzgen & Co., by same, 1 cs.

DECALCOMANIA PAPER

Phœnix Shipping Co., S. Ventana, Bremen, 3 cs.

BLOTTING PAPER

P. H. Petry & Co., California, Glasgow, 51 bls.

STRAW PAPER

J. P. Heffernan Paper Co., Reliance, Hamburg, 488 bls.

TINFOIL PAPER

Meadows Wye & Co., Celtic, Liverpool, 2 cs.

TISSUE PAPER

Brooks Paper Co., Celtic, Liverpool, 8 cs.

J. B. Mast & Co., Guilio Cesare, Genoa, 2 cs.

BARYTA-COATED PAPER

Globe Shipping Co., Pres. Harding, Bremen, 100 cs.

METAL COATED PAPER

Perry, Ryer & Co., Pres. Harding, Bremen, 4 cs.

MISCELLANEOUS PAPER

C. G. Keferstein, Cleveland, Hamburg, 3 cs.

J. P. Heffernan Paper Co., Reliance, Hamburg, 660 bls.

Fernstrom Paper Co., by same, 35 bls.

C. A. Johnson & Co., Celtic, Liverool, 35 bls.

Japan Paper Co., Guilio Cesare, Geneva, 5 cs.

F. L. Kraemar & Co., Minnewaska, London, 2 cs.

H. Reeve Angel & Co., Inc., by same, 13 cs.

National City Bank, Texas Maru, Hamburg, 95 rolls.

Fernstrom Paper Co., by same, 51 bls.

M. Gottesman & Co., Inc., Hellig Olav, Christiania, 38 rolls.

C. G. Keferstein, Mongolia, Hamburg, 362 rolls.

Kolesch & Co., McKeesport, Rotterdam, 5 cs.

Whiting & Patterson, Inc., Aquitania, Southampton, 7 cs.

Wilkinson Bros. & Co., Inc., Rotterdam, Rotterdam, 1 cs.

E. Dietzgen & Co., by same, 2 cs.

P. J. Schweitzer, France, Havre, 75 cs.

Guibout Freres, by same, 15 cs.

The Eleto Co., by same, 19 cs.

RAGS, BAGGINGS, ETC.

L. H. Abenheimer, Lancastria, Hamburg, 125 bls., rags.

E. J. Keller Co., Inc., Hellig Olav, Copenhagen, 315 bls. rags.

Castle & Overton, Kofoku Maru, Genoa, 12 bls. rags.

Guaranty Trust Co., by same, Leghorn, 113 bls. rags.

Albion Trading Co., Segundo, Marseilles, 186 bls. old cotton.

Katzenstein & Keene, Inc., by same, 238 bls. rags.

P. Berlowitz, by same, 361 bls. rags.

A. W. Fenton, Inc., Mongolia, Hamburg, 165 bls. rags.

L. H. Abenheimer, by same, 61 bls. rags.

Anglo South American Trust Co., by same, 258 bls. rags.

Castle & Overton, Caledonier, Antwerp, 56 bls. rags.

Castle & Overton, Rhode Island, Dundee, 120 bls. new cuttings.

Castle & Overton, Hannover, Bremen, 152 bls. rags.

Castle & Overton, Northwestern Miller, London, 12 bls. new cuttings.

Castle & Overton, De Grasse, Havre, 132 bls. baggings.

Castle & Overton, Suffren, Havre, 29 bls. rags.

E. J. Keller Co., Inc., Gaasterdyk, Rotterdam, 218 bls. rags.

Reis & Co., by same, 85 bls. threadwaste.

Castle & Overton, by same, 1 bls. bagging.

Atlantic Exchange Bank & Trust Co., by same, 8 bls. bagging.

G. M. Granes Co., by same, 110 bls. bagging.

G. M. Granes Co., by same, 7 bls. rags.

Textile Waste Merchandising Co., by same, 30 bls. rags.

Katzenstein & Keene, Inc., by same, 100 bls. rags.

Katzenstein & Keene, Inc., by same, 117 bls. bagging.

Katzenstein & Keene, Inc., Veendam, Rotterdam, 210 bls. bagging.

Katzenstein & Keene, Inc., by same, 427 bls. rags.

Katzenstein & Keene, Inc., N. Amsterdam, Rotterdam, 181 bls. rags.

Katzenstein & Keene, Inc., by same, 44 bls. new cuttings.

Katzenstein & Keene, Inc., by same, 38 bls. bagging.

Katzenstein & Keene, Inc., Urainenborg, Antwerp, 1,119 bls. rags.

Katzenstein & Keene, Inc., Cameronia, Glasgow, 81 bls. rags.

Katzenstein & Keene, Inc., Sahale, Rotterdam, 80 bls. rags.

Katzenstein & Keene, Inc., Indep. Hall, Havre, 89 bls. rags.

Katzenstein & Keene, Inc., Daytonian, London, 91 bls. rags.

Katzenstein & Keene, Inc., Anaconda, Rotterdam, 225 bls. rags.

S. Birkenstein & Sons, S. Ventana, Bremen, 245 bls. rags.

Goldman, Sachs & Co., by same, 291 bls. rags.

Belgian Bank, by same, 88 bls. rags.

Bankers Trust Co., by same, 69 bls. rags.

Parsons & Whittemore, by same, 180 bls. rags.

Chase National Bank, by same, 284 bls. rags.

M. O'Meara Co., McKeesport, Rotterdam, 17 bls. paperstock.

A. W. Fenton, Inc., by same, 466 bls. rags.

Chase National Bank, Reliance, Hamburg, 223 bls. rags.

Katzenstein & Keene, Inc., Vincent, Havre, 103 bls. rags.

R. Bishop Manufacturing Co., by same, Dunkirk, 99 bls. rags.

J. M. Jaffe, Olen, Bordeaux, 102 bls. rags.

Belgian Bank, Carlier, Antwerp, 13 bls. rags.

A. Hurst & Co., by same, 100 bls. rags.

D. M. Hicks, Inc., Crosby Hall, Manchester, 31 bls. new cuttings.

W. Schall & Co., Crosby Hall, Manchester, 23 bls. new cuttings.

Katzenstein & Keene, Inc., by same, 54 bls. new cuttings.

Brown Bros. & Co., by same, 52 bls. rags.

L. H. Abenheimer, by same, 69 bls. baggings.

Castle & Overton, Pres. Harding, Bremen, 31 bls. flaxwaste.

E. Butterworth & Co., Inc., Cabo Villano, Marseilles, 180 bls. rags.

Salomon Bros. & Co., by same, 48 bls. rags.

Albion Trading Co., by same, 77 bls. rags.

E. J. Keller Co., Inc., Caucasier, Antwerp, 222 bls. rags.

E. J. Keller Co., Inc., Lapland, Antwerp, 198 bls. flax waste.

E. J. Keller Co., Inc., Deutschland, Hamburg, 200 bls. rag pulp.

E. J. Keller Co., Inc., by same, 284 bls. rags.

E. J. Keller, Deutschland, Stockholm, 71 bls. rags.

E. J. Keller Co., Inc., Suffren, Rouen, 68 bls. bagging.

E. J. Keller Co., Inc., by same, 74 bls. new cuttings.

(*Continued on page* 58)

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Manufacturers of Blotting, Matrix, Filter and all other grades of absorbent papers.

Registered brands Magnet and Columbian, also Lenox and Arlington.

SEND FOR SAMPLES AND PRICES

Imports of Paper and Paper Stock

(*Continued from page 56*)

OLD ROPE

Brown Bros. & Co., Hellig Olav, Christiania, 71 coils.

W. Schall & Co., Kofoko Maru, Genoa, 490 coils.

Salomon Bros. & Co., Segundo, Marseilles, 145 coils.

E. Butterworth & Co., by same, 76 bales.

W. Steck & Co., Mongolia, Hamburg, 34 coils.

E. J. Keller Co., Inc., Rotterdam, Rotterdam, 98 coils.

Brown Bros. & Co., by same, 45 coils.

E. J. Keller Co., Inc., Reliance, Hamburg, 46 bales.

Belgian Bank, Skipsea, Barcelona, 29 bales.

T. D. Downing & Co., Crosby Hall, Manchester, 50 coils.

Brown Bros. & Co., Idaho, Hull, 185 coils.

WOOD PULP

Castle & Overton, Hellig Olav, Christiania, 1,000 bls. wood pulp.

Nilsen, Lyon & Co., by same, 1,500 bls. wood pulp.

Kidder, Peabody Acceptance Corp., by same, 125 bls. wood pulp.

Guaranty Trust Co., Mongolia, Hamburg, 166 bls. wood pulp.

Tidewater Papermills Co., Bornholm, Murray Bay, 6,236 bls. ground wood pulp.

Parsons & Whittemore, Matiras, Kotka, 160 bls., 26 tons wood pulp.

Johaneson, Wales & Sparre, Inc., Natiras, Kramtors, 7,200 bls., 1,200 tons wood pulp.

E. M. Sergeant & Co., by same, 1,500 bls., 250 tons wood pulp.

Castle & Overton, Orbita, Hamburg, 2,800 bls. wood pulp.

Ira L. Beebe, by same, 4,725 bls. wood pulp.

New York Trust Co., Texas Maru, Hamburg, 340 bls., 52 tons wood pulp.

Equitable Trust Co., by same, 730 bls., 105 tons wood pulp.

E. J. Keller Co., Inc., by same, 403 bls., 60 tons, wood pulp.

National City Bank, by same, 618 bls., 99 tons wood pulp.

Howell & Donaldson, Inc., by same, 668 bls., 101 tons wood pulp.

WOOD PULP BOARDS

Lagerloef Trading Co., S. Ventana, Bremen, 185 bls.

WOOD FLOUR

The Hansa Co., S. Ventana, Bremen, 2,658 bags.

A. Kramer & Co., McKeesport, Rotterdam, 400 bags, 20,000 kilos.

CASEIN

Kalbfleisch Corp., American Legion, Buenos Aires, 1,668 bags.

Atterbury Bros., Inc., Montgomery City, Buenos Aires, 417 bags.

First National Bank of Boston, by same, 417 bags.

Irving Bank-Columbia Trust Co., by same, 417 bags.

NEW ORLEANS IMPORTS

WEEK ENDING SEPTEMBER 13, 1924

Castle & Overton, Missouri, Havre, 181 bls. waste paper.

Castle & Overton, by same, 1,057 bls. rags.

Castle & Overton, Aquarius, Hamburg, 395 bls. rags.

Castle & Overton, Cliffwood, Hamburg, 159 bls. rags.

Castle & Overton, Missouri, Havre, 288 bls. rags.

Castle & Overton, West Hobomac, London, 276 bls. rags.

Castle & Overton, Meanticut, Antwerp, 357 bls. rags.

Castle & Overton, Spaarndam, Rotterdam, 200 bls. rags.

Castle & Overton, ———, Rotterdam, 275 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING SEPTEMBER 13, 1924

H. Bayersdorfer & Co., Texas Maru, Hamburg, 6 cases crepe paper.

Keystone Watchcase Co., by same, 2 cs. paper.

W. Schall & Co., by same, 18 bls. paper stock.

Stone Bros. & Co., by same, 436 bls. rags.

Chase National Bank, by same, 168 bls. rags.

J. Lang Paper Co., by same, 198 bls. rags.

Castle & Overton, by same, 443 bls. rags.

Philadelphia National Bank, by same, 544 bls. rags.

Belgian Bank, by same, 200 bls. rags.

D. J. Murphy, Cabo Vilano, Marseilles, 54 bls. rags.

Atlantic Exchange Bank & Trust Co., by same, 219 bls. rags.

Atlantic Exchange Bank & Trust Co., Olen, Bordeaux, 241 bls. rags.

Castle & Overton, by same, 232 bls. rags.

E. J. Keller Co., Inc., Olen, St. Nazaire, 180 bls. rags.

Castle & Overton, Vincent, Dunkirk, 1,173 bls. rags.

Philadelphia National Bank, by same, 49 bls. rags.

I. Milton Hagy Waste Works, by same, 208 bls. rags.

Katzenstein & Keene, Inc., Vincent, Havre, 250 bls. rags.

S. Birkenstein & Sons, by same, 43 bls. rags.

D. J. Murphy, Segundo, Marseilles, 299 bls. rags.

Castle & Overton, by same, 123 bls. rags.

Katzenstein & Keene, Inc., by same, 45 bls. rags.

Katzenstein & Keene, Inc., Manchester Mariner, Manchester, 240 bls. rags.

Katzenstein & Keene, Inc., Independence Hall, St. Denis, 62 bls. rags.

Katzenstein & Keene, Inc., Sagoporack, London, 77 bls. rags.

E. J. Keller Co., Inc., Dania, Copenhagen, 835 bls. rags.

E. J. Keller Co., Inc., Bilderdyk, Rotterdam, 97 bls. rags.

Castle & Overton, W. Campgaw, Hamburg, 191 bls. rags.

Castle & Overton, C. of St. Joseph, Naples, 146 bls. rags.

Castle & Overton, Doreian, Hamburg, 54 bls. rags.

Castle & Overton, Davisian, Manchester, 241 bls. rags.

Castle & Overton, Eastern Victor, Antwerp, 97 bls. bagging.

Castle & Overton, by same, 76 bls. rags.

Castle & Overton, Manchester Merchant, Manchester, 35 bls. rags.

Castle & Overton, London Mariner, England, 525 bls. waste paper.

Castle & Overton, Balsam, Scotland, 68 bls. old rope.

Castle & Overton, Mexicano, Norway, 4,000 bls. wood pulp.

Castle & Overton, ———, Germany, 1,615 bls. wood pulp.

Castle & Overton, D. Maglinda, Konigsberg, 2,195 bls. wood pulp.

Castle & Overton, D. Ariadne, Konigsberg, 475 bls. wood pulp.

M. Gottesman & Co., Inc., Osterdal, Sikea, 1,800 bls. wood pulp.

BALTIMORE IMPORTS

WEEK ENDING SEPTEMBER 13, 1924

A. Brown & Co., Gaasterdyk, Rotterdam, 337 bls. rags.

Furniss, Withy & Co., by same, 191 coils old rope.

M. Gottesman & Co., Inc., Pennsylvania, Christiania, 1,250 bls. wood pulp.

M. Gottesman & Co., Inc., Stureholm, Sundsvall, 1,500 bls. wood pulp.

M. Gottesman & Co., Inc., Western Plain, Kotka, 1,576 bls. wood pulp.

M. Gottesman & Co., Inc., Western Plain, Raumo, 2,150 bls. wood pulp.

M. Gottesman & Co., Inc., Western Pool, Hamburg, 800 bls. wood pulp.

E. J. Keller Co., Inc., Dorelian, Hamburg, 406 bls. wood pulp.

Castle & Overton, West Inskip, Rotterdam, 634 bls. wood pulp.

Castle & Overton, West Haven, Rotterdam, 1,438 bls. wood pulp.

Castle & Overton, various steamers, Germany, 6,235 bls. wood pulp.

Johaneson, Wales & Sparre, Inc., Tortugas, Drammen, 3,500 bls. sulphite.

Johaneson, Wales & Sparre, Inc., Trondhjemsfjord, Sundsvall, 500 bls. sulphite.

In transit to Toronto, Canada:

The Prager Co., Rotterdam, Rotterdam, 878 rolls wall paper.

The Prager Co., by same, 411 bls. wall paper.

BOSTON IMPORTS

WEEK ENDING SEPTEMBER 13, 1924

Castle & Overton, Bilderdyk, Rotterdam. 550 bls. wood pulp.

E. Butterworth & Co., Inc., by same, 2 bls. cotton cuttings.

Maurice O'Meara, by same, 36 bls. burlaps.

E. Butterworth & Co., Inc., 82 bls. scrap burlap for paper stock; 16 bls. rags.

Second National Bank, by same, 42 bls. rags.

Geo. M. Graves & Co., by same, 50 bls. rags.

Lee, Higginson & Co., by same, 169 bls. rags.

Boston customer, by same, 129 bls. old paper.

E. Butterworth & Co., Mexicano, Scandinavian ports, 120 bls. dry sulphite pulp.

Nilson, Lyon & Co., by same, 375 bls. chemical wood pulp.

J. Anderson & Co., by same, 500 bls. dry sulphite pulp.

Kidder, Peabody & Co., by same, 500 bls. dry sulphite pulp.

A. W. Nelson Co., Balsam, Glasgow, 10 cs. basic paper.

T. N. Downing & Co., by same, 93 bls. rags.

Baring Bros. & Co., by same, 70 bls. old rags.

G. M. Graves & Co., by same, 382 bls. old rags.

Baldwin Universal Co., by same, 116 bls. paper stock.

Baring Bros. Co., Barbadian, Liverpool, 254 bls. waste paper.

Dalton, buyer, by same, 76 bls. paper stock.

Crocker, Burbank & Co., by same, 359 bls. waste paper.

Crane & Co., by same, 47 bls. old rags.

C. H. Dexter & Co., by same, 49 bls. old rags.

Boston customers not specified, by same, 39 bls. old ropes and 124 bls. paper stock.

Boston customers not specified, Natirar, from Scandinavian ports, 5,750 bls. pulp.

Baring Bros. & Co., Digby, Liverpool, 73 bls. waste paper.

Boston Production Co., Tasmanic, Scandinavian ports, 1,044 rolls newspaper.

Bank of America, by same, 54 rolls newspaper.

Mead, Patton & Co., Inc., by same, 3,000 bls. sulphite wood pulp.

Bulkley, Dunton & Co., by same, 150 bls. sulphate wood pulp.

Price & Pierce, Ltd., 240 reels wet wood pulp.

Scandinavian Pulp Agency, by same, 5,207 bls. Kraft pulp, and 1,651 bls. bleached sulphite pulp.

Exchange Trust Co,. by same, 26 bls. waste paper.

Johaneson, Wales & Sparre Co., Inc., by same, 875 bls. sulphite pulp.

J. Anderson & Co., by same, 2,500 bls. sulphite pulp.

National Gummed & Coated Paper Co., by same, 48 reels wrapping paper.

Scandinavian Pulp Agency, by same, 254 bls. sulphite pulp.

The Borregaard Co., by same, 375 bls. wood pulp.

FOR NEW YORK DELIVERY VIA BOSTON.

Geo. W. Millar, Bilderdyk, Rotterdam, via Boston, 177 bls. rags.

(*Continued on page 60*)

New York Office
280 Broadway

Dayton Office

Chicago Office
10 So. La Salle St.

Compare it
Tear it
Test it
and you will specify it

HOWARD BOND
WATERMARKED

Howard Laid Bond
Howard Ledger
Howard Bond
Envelopes

"The Nation's Business Paper"
Made by
THE HOWARD PAPER CO. **URBANA, OHIO**

The B Co. INC. QUALITY PULPS

HAFSLUND NORWAY
"HAFSLUND BEAR"
Bleached Sulphite

F:HAGA
"FORSHAGA"
Bleached Sulphite

KRAFT HURUM
"HURUM SPECIAL"
Extra Strong Kraft

NORWAY SPECIAL
KOOS BAC
"BAMBLE"
Extra Strong Kraft

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We take care of our health, we lay up money, we make our roof tight and our clothing sufficient, but who provides wisely that we shall not be wanting in the best property of all—friends.—Emerson.

Helpfully yours,
K. V. P. Co.

KVP

Perforated Metal Screens
For Pulp and Paper Mills

.165 Inch Round

STEEL, COPPER, BRASS, BRONZE
and other Alloys

punched for Centrifugal and Rotary Screens, Pulp Washers, Drainer Bottoms, Filter Plates, etc.

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Address Nearest Office
Westinghouse Electric & Mfg. Co.
So. Philadelphia Works, Philadelphia, Pa.

W WESTINGHOUSE ELECTRIC

Westinghouse

Imports of Paper and Paper Stock

(*Continued from page* 58)

E. Butterworth & Co., by same, 291 bls. rags, and 9 bls. special white rags.
Geo. M. Graves, Inc., by same, 248 bls. old rags.
On order, by same, 32 reels strawboard.
Spaulding, Tewksbury & Co., by same, 160 reels strawboard.
Johaneson, Wales & Sparre, Inc., Natirar, Scandinavian ports via Boston, 6,600 bls. dry wood pulp.
E. M. Sergeant Co., by same, 1,500 bls. dry sulphite wood pulp.
A. E. B., by same, 2,625 bls. dry sulphite wood pulp.
On order, by same, 2,712 bls. sulphite cellulose.

FOR PHILADELPHIA DELIVERY VIA BOSTON.

Stone Bros. Co., Bilderdyk, Rotterdam, 91 bls. rags.
International Acceptance Bank, by same, 33 bls. rags.
S. Birkenstein Sons, by same, 65 bls. rags.
R. F. Downing & Co., Inc., by same, 299 bls. rags.
E. J. Keller Co., Inc., by same, 32 bales rags.
S. Specter, by same, 27 bales rags.
Castle & Overton, by same, 13 bales old rags.
Stone Bros. Co., by same, 227 bales old rags.
Dan G. Murphy, by same, 148 bales old rags.
F. W. Winnes & Son, by same, 40 coils old rope.
Lee Higginson & Co., by same, 167 bales old rags.
Geo. M. Graves & Co., Inc., 143 bales old rags.
E. Butterworth & Co., by same, 79 bales old rags.
E. J. Keller Co., Inc., by same, 265 bls. old rags.
Philadelphia National Bank, Mexicana, Norwegian ports, 993 reels paper.
American Exchange National Bank, by same, 55 reels paper.
Nilsen, Lyon & Co., by same, 1,300 bls. bleached sulphite pulp.
Atterbury & McKelvey, by same, 1,800 bls. bleached sulphite pulp.
Castle & Overton, by same, 4,000 bls. moist mechanical wood pulp.
Commercial Exchange National Bank, by same, 1,000 bls. moist mechanical wood pulp.
On order, by same, 1,500 bls. moist mechanical wood pulp.
S. Birkenstein & Son, Balsam, Glasgow, 126 bls. old rags.
Atlantic Paper Co., by same, 8 bls. printing paper.
Stone Bros. & Co., by same, 76 bls. old bagging for paper stock.
On order, by same, 129 bls. old rags.

FOR NORFOLK DELIVERY VIA BOSTON.

American Exchange National Bank, Mexicano, Norwegian ports, 12 reels paper.
Nilsen, Lyon & Co., by same, 900 bls. bleached sulphite pulp.
Atterbury & McKelvey, by same, 900 bls. bleached sulphite pulp.
The Borregaard Co., by same, 600 bls. bleached sulphite wood pulp.
Norfolk Ledger Dispatch, by same, 300 rolls unglazed white news print.
Atlantic Jute Mills, Balsam, Glasgow, 33 bls. paper stock.
On order, Barbadian, Liverpool, 296 bls. old bagging for paper stock.

FOR BALTIMORE DELIVERY VIA BOSTON.

W. H. Hassen, Balsam, Glasgow, 507 bls. paper stock.
On order, Barbadian, Liverpool, 93 bls. old bagging for paper stock.

PORTLAND, MAINE, IMPORTS

WEEK ENDING SEPTEMBER 13, 1924

Johaneson, Wales & Sparre, Inc., Kirsten Mearsk, Gothenburg, 11,500 bls. sulphite.

Paper Competition Keen in Cuba

WASHINGTON, D. C., September 17, 1924.—Until a few months ago, paper of European manufacture was offered in Havana at prices markedly below that of American paper of similar quality with the result that American paper dealers found it practically impossible to meet the competition from Europe in certain lines according to a report received from Trade Commissioner Livengood by the Department of Commerce. In discussing European competition in the Cuban paper market in some detail the Trade Commissioner says:

"As an element tending to counteract the effect of European low prices, however, the facilities offered by American manufacturers of quick and sure delivery and the unwillingness on the part of Cuban houses to sever their longstanding connections with American companies had considerable weight. Moreover, the recognized high quality of American papers was a factor which was sufficient to overbalance differences in price if these were of slight amount. Nevertheless, the low prices offered by representatives of manufacturers, particularly in Germany and the Scandinavian countries resulted in the placing of important orders, sometimes with insufficient investigation on the part of the salesmen of the credit standing of the purchasers. Upon arrival of the goods, cases have not been infrequent where the purchaser refused his order, with the result that the shipment was thrown on the market at reduced prices. At the present time it is stated that the Cuban market has a considerable stock of paper, a part of which resulted from this class of shipments.

"Within recent months German paper, as well as that from Norway, Sweden, Finland, and other European countries, has undergone a rather sharp advance in price, and American prices are not now so far out of line with those of the European competitors as formerly. Dealers have asserted that unless American papers are advanced in price, the chances of meeting the European competition as represented by present conditions are favorable, but it has been suggested that if American prices are also advanced at an early date, the advantage gained by the increase in European prices will be lost.

"Among papers in which European competition is being felt may be mentioned cheap bond. A sample of this paper from an order of fifty tons of German origin was displayed by a Havana dealer the price of which for 13 to 28 pounds basis was 6¼ cents, c. i. f. Havana. This dealer stated that American paper of a similar grade would cost around 8 cents f. o. b. New York.

"Another grade of bond, described as "Cream Wove Bank", made in Austria and which was formerly quoted at 7¾ cents c. i. f. Havana, is now being offered at 8¼ cents for basis 16 pounds and upward. A Finnish bond and containing 25 per cent ground wood is being quoted at 7 cents c. i. f. for the same basic weights for a white sheet and 7¼ cents for colored. Four months ago this paper was quoted at 6¾ cents. A white German bond of the same weights which was formerly on the market at £33 c. i. f. Havana for a ton of 2,240 pounds is now offered at £37 1s. 1d., or the equivalent of about 7½ cents a pound. With the exception mentioned none of the papers on being tested show a groundwood content.

"An S. C. printing paper, basis 25 x 38, had sized for writing and with a groundwood content, is being offered by the Finnish mills at £27 a ton of 2,240 pounds, or the equivalent of about 5½ cents a pound for a 47 pound basis. Other hard-sized S. C. printing papers of Austrian and Belgian make and containing no groundwood are offered at 7 cents c. i. f., Havana, basis, 40 pounds. A short while ago the latter was being quoted at 6¼ cents.

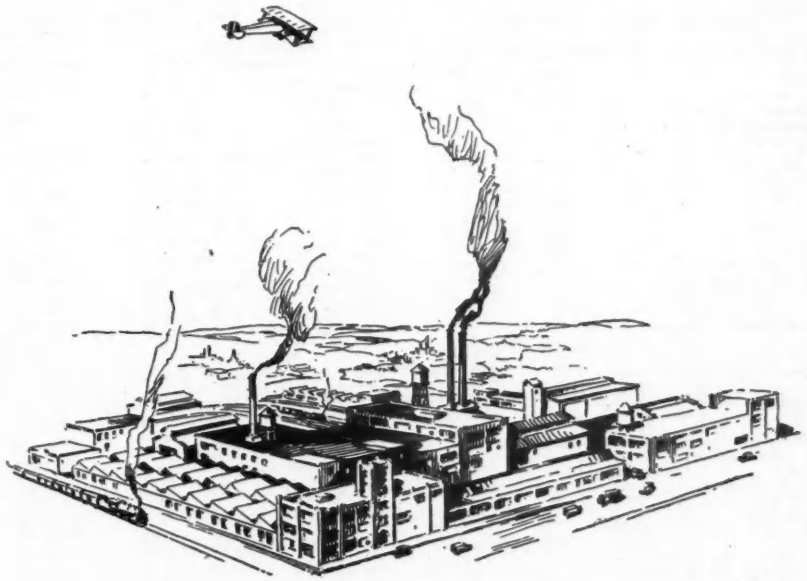
"Colored poster paper of German make is being quoted at 5 cents c. i. f., Havana, for a 25 pound sheet, basis 24 x 36. Unbleached glassine from Finland is offered at £38 10s., or about 7.1 cents, c. i. f., Havana, 14 pounds, 20 x 30, and unbleached glassine from Belgium is offered at 7½ cents on a 17 pound basis. With regard to kraft paper, it is stated that prices from Norway and Sweden are some 20 per cent less than those for American paper.

"European competition in pasteboard is small as a result of the superior quality of this product manufactured in the United States. Envelopes from Europe are cheaper but of poorer quality and American envelopes therefore dominate the Cuban market.

"European houses are reported as granting credit terms of draft at sixty days' sight. American houses grant as liberal terms and some are said to extend credit up to ninety days. In the case of a very restricted number of Cuban paper importers their very high credit standing enables the American manufacturer to send shipments on open account but this cannot be said to be represetative of credit terms in general."

Tragic Death of Karl Rosel

Word has been received in New York of the tragic death of Karl Rosel, superintendent of the sulphite mill of the Crown Willamette Paper Company at Floriston, Cal. Rosel, in charge of a crew of men, was fighting a forest fire when a huge rock rolled down the mountain side, crushing him to earth. He died within an hour at the Floriston hospital. He was born in Saxony, Germany, and was educated at the Leipsic Gymnasium. Last year he was made superintendent of the sulphite mill at Floriston. There he met Miss May Taylor of Florin, Cal., to whom he was married.



An airplane X-ray view of your plant

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INVESTIGATIONS, VALUATIONS, REPORTS — INDUSTRIALS, PUBLIC UTILITIES, NATURAL RESOURCES

An American Appraisal

THE AUTHORITY

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Market Quotations

PAPER SECURITIES CLOSING PRICES TUESDAY

Reported by Stewart Tuttle & Co., Inc., 120 Broadway, New York

Stocks	BID	ASKED
Abitibi Power and Paper Company, Ltd.	58½	59
Abitibi Power and Paper Company, Ltd, Pfd.	100	101
American Writing Paper Company, Pfd.	2½	3
Brompton Pulp and Paper Company, Ltd	32⅛	33
Donnacona Paper Company, Ltd.	45	50
Donnacona Paper Company, Ltd., Pfd.	98	100
International Paper Company	45¾	46½
International Paper Company, Pfd.	71	73
Laurentide Company, Ltd.	85½	86
Price Brothers	43½	44
St. Maurice Paper Co., Ltd	84	86
Smith (Howard) Paper Mills, Ltd.	30	34½
Spanish River Pulp and Paper Mills, Ltd.	108¾	109½
Spanish River Pulp and Paper Mills, Ltd., Pfd	118½	118⅝
Union Bag and Paper Corp.	38	38¼
Wayagamack Pulp and Paper Company, Ltd.	36	37
West Virginia Pulp and Paper Company	49	54

Bonds	BID	ASKED
Abitibi Power and Paper Company, Ltd., 1st 6s, 1934	99	101
Abitibi Power and Paper Company, Ltd., Gen. 6s 1940	94½	96½
Abitibi Power and Paper Company, Ltd., Con. 8s 1931	102½	103½
Belgo Canadian Paper Company, 1st 6s 1943	95½	95¾
Brown Company Serial 6s	98	98¼
Carthage Sulphite Pulp and Paper Company, 1st 8s 1941	35	50
Continental Paper and Bag Mills Corporation, 1st and Ref. 6½s, Series "A," 1944	94	95
Donnacona Paper Company, Ltd., 1st 6s 1940	98	100
Eddy Paper Company, 1st 7½s 1931	94	95½
Gair (Robert) Company, 1st 7s 1937	99¼	99¾
International Paper Company, 1st and Ref. 5s (Series "B") 1947	85	86¼
Mattagami Pulp and Paper Company, 1st 6s 1937	58	60
Mattagami Pulp and Paper Company, 1st 7s 1949	20	25
Oswego Falls Corporation, 1st 8s 1942	101½	102
Oxford Paper Company, 1st and Ref. 6s (Series "A") 1947	97½	99½
Parker, Young Company, 1st 6½s 1944	95½	97½
Paterson Parchment Paper Company, 1st 6s (Series "A") 1938	95	96
Peshtigo Paper Company, 1st 7s (Series "B") 1942	92	94
Price Bros. & Co., Ltd., 1st 6s (Series "A") 1943	98¼	99¼
Provincial Paper Mills, Ltd., 1st 6s 1940	98	100
Riordon Pulp and Paper Company, Ltd., Gen. 6s 1929	17	22
Riordon Pulp and Paper Company, Ltd., 6s 1942	91	92
Riordon Company, Ltd., 1st and Ref. 8s 1940	94	98
River Raisin Paper Company, 1st 8s 1936	103	104
Smith (Howard) Paper Mills, Ltd., 6s 1934	95	95½
Smith (Howard) Paper Mills, Ltd., 1st Ref. 7s 1941	94	96
Spanish River Pulp and Paper Mills, Ltd., 1st 6s 1931	102½	104
Spanish River Pulp and Paper Mills, Ltd., Gen. 8s 1941	106	107
Wayagamack Pulp and Paper Company, Ltd., 1st 6s 1951	74	77

Paper

F. o. b. Mill		
Ledgers	11.00	@38.00
Bonds	9.00	@45.00
Writings—		
Extra Superfine	14.00	@30.00
Superfine	14.00	@30.00
Tub Sized	10.00	@15.00
Engine Sized	8.00	@11.00
News—		
Rolls, contract	3.65	@ 3.90
Rolls, transit	3.75	@ 4.25
Sheets	4.15	@ 4.40
Side Runs	3.25	@ 1.50
Book, Cased—		
S. & S. C.	8.00	@ 9.50
M. F.	7.50	@ 8.85
Coated and Enamel	9.00	@14.00
Lithograph	9.00	@14.00
Tissues—		
White No. 1	.75	@ .76
White No. 2	.70	@ .80
Colored	1.05	@ 1.90
Anti-Tarnish	1.35	@ 1.90
Kraft	.85	@ 1.10
Manila	.75	@ .80
Kraft—		
No. 1 Domestic	5.50	@ 6.25
No. 2 Domestic	5.00	@ 5.75
Imported	5.50	@ 5.75
Manila—		
No. 1 Jute	9.00	@
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.75	@ 4.00
Fibre Papers—		
No. 1 Fibre	5.50	@ 5.75
No. 2 Fibre	4.75	@ 5.25
Common Bogus	2.50	@ 2.75
S. Screening	3.25	@ 3.75
Card Middler	4.00	@ 5.00

Boards—per ton—		
News	47.50	@50.00
Straw	50.00	@55.00
Chip	37.50	@42.50
Binders' Boards	75.00	@80.00
Sgl. Mla. Ll. Chip	55.00	@60.00
Wood Pulp	70.00	@75.00
Container	62.50	@67.50
Sulphate Screenings—		
Coarse	.80	@ .90
Refined	1.75	@ 2.00
Ground Wood—		
Screenings	20.00	@25.00
Glassine—		
Bleached, basis 25 lbs.	12.00	@15.00
Bleached, basis 20 lbs.	14.00	@17.00

Mechanical Pulp

(Ex-Dock)		
No. 1 Imported	35.00	@40.00
(F. o. b. Mill)		
No. 1 Domestic	27.50	@34.00

Chemical Pulp

(Ex-Dock, Atlantic Ports)		
Sulphite (Imported)—		
Bleached	3.75	@ 4.50
Easy Bleaching	2.90	@ 3.15
No. 1 strong unbleached	2.75	@ 3.00
No. 2 strong unbleached	2.50	@ 2.75
No. 1 Kraft	2.75	@ 2.85
Sulphate—		
Bleached	3.50	@ 3.65
(F. o. b. Pulp Mill)		
Sulphite (Domestic)—		
Bleached	3.50	@ 4.50
Easy Bleaching Sulphite	2.60	@ 3.00
News Sulphite	2.50	@ 2.75
Mitscherlich	3.00	@ 3.50
Kraft (Domestic)	2.75	@ 3.00
Soda Bleached	3.90	@ 4.10

Domestic Rags

New Rags		
Prices to Mill, f. o. b. N. Y.		
Shirt Cuttings—		
New White, No. 1	14.00	@15.00
New White, No. 2	7.50	@ 8.50
Silesias, No. 1	8.50	@ 9.00
New Unbleached	10.50	@11.00
Washables	5.50	@ 6.15
Fancy	7.50	@ 8.50
Blue Overall	7.75	@ 8.25
New Blue	5.00	@ 5.50
New Black Soft	4.75	@ 5.25
New Light Seconds	3.00	@ 3.25
O. D. Khaki Cuttings	4.50	@ 4.75
Men's Corduroy	4.00	@ 4.25
New Canvas	7.00	@ 7.50
New Black Mixed	2.75	@ 3.00
Old Rags		
White, No. 1—		
Repacked	6.25	@ 6.75
Miscellaneous	5.50	@ 5.75
White, No. 2—		
Repacked	4.25	@ 4.50
Miscellaneous	3.75	@ 4.00
St. Soiled, White	3.00	@ 3.50
Thirds and Blues—		
Repacked	4.00	@ 4.25
Miscellaneous	3.00	@ 3.25
Black Stockings	3.50	@ 3.75
Roofing Rags—		
Cloth Strippings	1.90	@ 2.00
No. 1	2.40	@ 2.50
No. 2	2.30	@ 2.40
No. 3	1.20	@ 1.30
No. 4	1.20	@ 1.30
No. 5A	1.80	@ 1.50

Foreign Rags

New Light Silesias	7.50	@ 8.75
Light Flannelettes	8.00	@ 8.25
Unbl'chd Cottons	9.50	@10.00
New White Cuttings	11.50	@12.50
New Light Oxfords	7.75	@ 8.25
New Light Prints	7.25	@ 7.75
New Mixed Cuttings	3.25	@ 3.75
New Dark Cuttings	3.00	@ 3.50
No. 1 White Linens	10.00	@11.00
No. 2 White Linens	7.00	@ 8.00
No. 3 White Linens	6.00	@ 6.50
No. 4 White Linens	4.50	@ 5.50
Old Extra Light Prints	4.50	@ 5.00
Ord. Light Prints	3.00	@ 3.50
Med. Light Prints	2.40	@ 2.50
Dutch Blue Cottons	3.50	@ 4.00
Ger. Blue Cottons	3.00	@ 3.25
Ger. Blue Linens	3.50	@ 4.00
Checks and Blues	2.25	@ 2.50
Dark Cottons	1.50	@ 1.75
Shoppery	1.40	@ 1.60
French Blues	3.25	@ 3.75

Bagging

Prices to Mill F. o. b. N. Y.		
Gunny No. 1—		
Foreign	1.80	@ 2.00
Domestic	1.75	@ 2.00
Wool, Tares, light	1.40	@ 1.50
Wool, Tares, heavy	1.40	@ 1.50
Bright Bagging	1.25	@ 1.40
Sound Bagging	.90	@ 1.00
Manila Rope—		
Foreign	6.25	@ 6.50
Domestic	6.50	@ 6.75
New Bu. Cut	2.40	@ 2.60
Hessian Jute Threads—		
Foreign	2.25	@ 2.50
Domestic	2.10	@ 2.20

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, White, No. 1	3.75	@ 4.00
Hard, White, No. 2	3.25	@ 3.50
Soft, White, No. 1	3.00	@ 3.25
Flat Stock—		
Stitchless	1.60	@ 1.70
Over Issue Mag.	1.60	@ 1.70
Solid Flat Book	1.55	@ 1.65
Crumpled No. 1.	1.25	@ 1.35
Solid Book Ledger	1.90	@ 2.00
Ledger Stock	1.60	@ 1.70
New B. B. Chips	.50	@ .55
Manilas—		
New Env. Cut	2.45	@ 2.55
New Cut. No. 1	1.65	@ 1.90
Extra No. 1 old.	1.40	@ 1.50
Print	1.20	@ 1.30
Container Board	1.00	@ 1.10
Bogus Wrapper	1.00	@ 1.10
Old Krafts Machine compressed bales.	2.10	@ 2.20
News—		
No. 1 White News	1.65	@ 1.75
Strictly Overissue	1.05	@ 1.15
Strictly Folded	.95	@ 1.05
No. 1 Mixed Paper.	.75	@ .85
Common Paper	.55	@ .65

Twines

Cotton—(F. o. b. Mill)—		
No. 1	.43	@ .48
No. 2	.41	@ .43
No. 3	.40	@ .42
India, No. 6 basis—		
Light	.19	@ .20
Dark	.17	@ .19
B. C., 18 basis	.39	@ .41
A. B. Italian, 18 Basis	.51	@ .61
Finished Jute—		
Dark, 18 basis	.30	@ .31
Light, 18 basis	.28	@ .30
Jute Wrapping, 3-6 Ply—		
No. 1	.20	@ .23
No. 2	.18	@ .20
Tube Rope—		
4-ply and larger.	.15	@ .17
Fine Tube Yarn—		
5-ply and larger.	.20	@ .22
4-ply	.21	@ .24
3-ply	.22	@ .25
Unfinished India—		
Basis	.14	@ .15
Paper Makers' Twine		
Balls	.12	@ .13
Box Twine, 2-3 ply	.14	@ .15
June Rope	.20	@ .40
Amer. Hemp, 6	.30	@ .32
Sisal Hay Rope—		
No. 1 Basis	.14	@ .16
No. 2 Basis	.10	@ .12
Sisal Lath Yarn—		
No. 1	.14	@ .15
No. 2	.11	@ .13
Manila Rope	.18	@ .19

CHICAGO

[FROM OUR REGULAR CORRESPONDENT]

Paper

F. o. b. Mill		
All Rag Bond	35	@ 40
No. 1 Rag Bond	25	@ 35
No. 2 Rag Bond	14	@ 25
Water Marked Sulphite	9	@ 12
Sulphite Bond	6¾	@ 10¾
Sulphite Ledger	9½	@ 12
Superfine Writing	18	@ 24
No. 1 Fine Writing	14	@ 18
No. 2 Fine Writing	12	@ 14
No. 3 Fine Writing	9	@ 12
No. 1 M. F. Book	5½	@ 7½
No. 1 S. & S. C. Book	6½	@ 7¾
Coated Book	8	@ 10
Coated Label	8	@ 10
News—Rolls, mill	3¾	@ 4¼
News—Sheets, mill	4	@ 4¾
No. 1 Manila	4¾	@ 6¼
No. 1 Fibre	4¾	@ 5½
No. 2 Manila	3¾	@ 4¼
Butchers' Manila	3¾	@ 4½
No. 1 Kraft	5¾	@ 6¼
No. 2 Kraft	4¾	@ 5
Wood Tag Boards	4½	@ 6
Sulphite Screenings	2¼	@ 2¾
Manila Tissue, 20x30 sheet	7	@ —
White Tissue, 24x36 sheet	7	@ —
Boards, per ton—		
Plain Chip	$45.00	@47.50
Solid news	47.50	@50.00
Manila Line Chip	55.00	@57.50
Container Lined—		
85 Test	65.00	@67.50
100 Test	70.00	@72.50

Old Papers

F. o. b. Chicago

Shavings—		
No. 1 Hard White	3.40	@ 3.50
White Envel. Cuttings	3.40	@ 3.50
No. 1 Soft Shav.	3.15	@ 3.25
No. 1 Mixed	1.65	@ 1.75
No. 2 Mixed	1.60	@ 1.70

Ledgers and Writings	1.75	@	1.80
Solid Books	1.70	@	1.75
No. 1 Books, Light	1.35	@	1.40
Blanks	2.10	@	2.15
Ex. No. 1 Manila	2.30	@	2.40
Manila Envelope Cuttings	2.50	@	—
No. 1 Manila	1.35	@	1.45
Folded News (over issue)	1.15	@	1.20
Old Newspapers—			
No. 1	1.05	@	1.10
No. 2	.95	@	1.00
Mixed Papers—			
No. 1	1.00	@	—
No. 2	.80	@	.85
Straw Clippings	1.00	@	—
Binders' Clippings	1.00	@	—
Kraft	2.35	@	2.45
New Kraft Cuts	2.55	@	—
Roofing Stock, f. o. b. Chicago, Net Cash—			
No. 1	$42.00	@	—
No. 2	40.00	@	—
No. 3	38.00	@	—
No. 4	38.00	@	—

PHILADELPHIA

[FROM OUR REGULAR CORRESPONDENT]

Paper

Bonds	.09½	@	.53
Ledgers	.15	@	.40
Writings—			
Superfine	.15	@	.20
Extra fine	.12	@	.22
Fine	.20	@	.30
Fine, No. 2	.20	@	.25
Fine, No. 3	.15	@	.20
Book, M. F.	.09¼	@	.12¼
Book, S. S. & C.	.11	@	.15
Book, Coated	.14¼	@	.20
Coated Lithograph.	.10	@	.15
Label	.10	@	.15
News	.05	@	.07
No. 1 Jute Manila	.12	@	.13
Manila Sul., No. 1	.08	@	.10
Manila No. 2	.07½	@	.08
No. 2 Kraft	—	@	.08½
No. 1 Kraft	—	@	.09½
Common Bogus	.03½	@	.04
Shaw Board	$5.00	@	60.00
News Board	42.50	@	—
Chip Board	40.00	@	42.50
Wood Pulp Board.	2.75	@	3.00

(Carload Lots)

Binder Boards—			
Per ton	70.00	@	75.00
Carload lots	65.00	@	70.00
Tarred Felts—			
Regular	61.00	@	63.00
Slaters	66.00	@	68.00
Best Tarred, 1-ply (per roll)	1.70	@	1.80
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply.	2.00	@	2.10

Bagging

F. o. b. Phila.

Gunny No. 1—			
Foreign	1.75	@	1.85
Domestic	1.75	@	2.00
Manila Rope	5.00	@	5.50
Sisal Rope	2.50	@	—
Mixed Rope	1.25	@	—
Scrap Burlaps	1.00	@	1.25
Wool Tares, heavy.	2.00	@	2.13
Mixed Strings	1.00	@	—
No. 1, New Lt. Burlap	3.50	@	3.75
New Burlap Cuttings	3.50	@	—

Old Papers

F. o. b. Phila.

Shavings—			
No. 1, Hard White	3.40	@	3.60
No. 2, Hard White	3.25	@	3.40
No. 1 Soft White	3.10	@	3.25
No. 2 Soft White	2.00	@	2.25
No. 1 Mixed	2.00	@	—
No. 2 Mixed	1.25	@	1.30
Solid Ledger Stock.	1.65	@	1.85
Writing Paper	1.50	@	1.75
No. 1 Books, heavy	1.45	@	1.60
No. 2 Books, light.	1.15	@	1.25
No. 1 New Manila.	2.40	@	2.50
No. 1 Old Manila.	1.50	@	1.75
Container Manila.	1.25	@	1.40
Old Kraft	2.15	@	2.25
Overissue News	1.05	@	1.10
Old Newspaper	1.05	@	1.40
No. 1 Mixed Paper.	.80	@	.90
Common Paper	.65	@	.70
Straw Board, Chip.	.65	@	.70
Binders Bd., Chip.	.65	@	.70

Domestic Rags—New.

Price to Mill, f. o. b. Phila.

Shirt Cuttings—			
New White, No. 1	.12	@	.13
New White, No. 2	.07	@	—
Silesias, No. 1	.08¼	@	.08½
New Unbleached.	.11½	@	.11¾
Washable	.05½	@	.05¾
Fancy	.07	@	.07¼
Cottons—according to grades—			
Blue Overall	.09¼	@	.09½
New Blue	.03½	@	.03¾
New Black Soft.	.06	@	.06¼
New Light Seconds	.03½	@	.03¾
Khaki Cuttings	.05½	@	.06
Corduroy	.04	@	.04½
New Canvas	.10½	@	.11
New Black Mixed	.05	@	.05¼

Old

White, No. 1—			
Repacked	7.50	@	8.00
Miscellaneous	6.25	@	6.50
White, No. 2—			
Repacked	.05	@	.05½
Miscellaneous	.04¼	@	.05¼
Thirds and Blues—			
Repacked	3.65	@	3.85
Miscellaneous	3.15	@	3.25
Black Stockings	4.00	@	4.50
Roofing Stock—			
No. 1	2.30	@	240
No. 2	2.20	@	2.30
No. 3	1.15	@	1.20
No. 4	2.10	@	2.20
No. 5A	1.40	@	—
B	1.25		nominal
C	1.15		nominal

TORONTO

Paper

(Mill Prices to Jobbers f. o. b. Mill)

Bond—			
Sulphite	.11	@	.12½
Light tinted	.12	@	.13½
Dark tinted	.13½	@	.15
Ledgers (sulphite)	—	@	.13
Writing	.09½	@	.12
News, f. o. b. Mills—			
Rolls (carloads)	3.65	@	—
Sheets (carloads)	—	@	4.50
Sheets (2 tons or over)	—	@	4.75
Book—			
No. 1 M. F. (carloads)	9.00	@	—
No. 2 M. F. (carloads)	8.00	@	—
No. 3 M. F. (carloads)	7.50	@	—
No. 1 S. C. (carloads)	9.50	@	—
No. 2 S. C. (carloads)	8.50	@	—
No. 1 Coated and litho	14.50	@	—
No. 2 Coated and litho	13.50	@	—
No. 3 Coated and litho	12.75	@	—
Wrapping—			
Rag Brown	4.75	@	—
White Rag	5.25	@	—
"B" Manila	5.50	@	—
No. 1 Manila	6.50	@	—
Fiber	6.50	@	—
Kraft, M. F.	7.00	@	—
M. G.	7.15	@	—

Pulp

(F. o. b. Mill)

Ground wood	$28.00	@	30.00
Sulphite easy bleaching	60.00	@	—
Sulphite news grade	50.00	@	55.00
Sulphite, bleached.	80.00	@	—
Sulphate	65.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut.	3.60	@	—
Soft White Book shavings	2.80	@	—
White Blk. News	1.75	@	—
Book and Ledger—			
Flat Magazine and Book Stock(old)	1.25	@	—
Light and Crumpled Book Stock	1.10	@	—
Ledgers and Writings	1.50	@	—
Solid Ledgers	1.50	@	—
Manilas—			
New Manila Cut.	—	@	1.60
Printed Manilas	1.10	@	—
Kraft	2.05	@	—
News and Scrap—			
Strictly Overissue.	.80	@	—
Folded News	.80	@	—
No. 1 Mixed Papers	—	@	.60

Domestic Rags—

Price to mills, f. o. b. Toronto

	Per lb.		
No. 1 White shirt cuttings	.13½	@	.13¾
No. 2 White shirt cuttings	.06½	@	.07
Fancy shirt cuttings	.07	@	.07¼
No. 1 Old Whites.	—	@	—
Third and blues	.05	@	.05¼
	Per cwt.		
Black stockings	.04	@	—
Roofing stock:			
No. 1	2.20	@	—
No. 2	2.10	@	—
Manila rope	.06	@	.06¼
No. 2	1.55	@	—

BOSTON

[FROM OUR REGULAR CORRESPONDENT]

Paper

Ledgers—			
Sulphite	.08½	@	.18
Rag Content	.18	@	.36½
All Rag	.38	@	.50
Bonds—			
Sulphite	.07½	@	.14
Rag Content	.16	@	.33½
All Rag	.36½	@	.51
Writings	.08½	@	.20
Superfines	.20	@	.48
News	.04	@	.06½
Bock, M. F.	.06¼	@	.10¾
Book, Super	.07½	@	.11
Book, Coated	.09½	@	.20
Coated Litho	.10	@	.15
Label	.09½	@	.15
Jute Manila No. 1.	.12	@	.13
Manila, Sul. No. 1.	.05	@	.06
Manila, Sul. No. 2.	.03¾	@	.04¼
No. 1 Kraft	6¼	@	.06½
No. 2 Kraft	.05¾	@	.05½
Common Bogus	.03½	@	.04
Straw Board	50.00	@	55.00
News Board	47.50	@	50.00
Chip Board	45.00	@	47.50
Wood Pulp Board	80.00	@	85.00
Binder Boards	75.00	@	85.00
Tarred Felts—			
Regular	61.00	@	63.00
Slater's	66.00	@	68.00
Best Tarred, 1 Ply, roll	1.50	@	1.60
Best Tarred, 2 Ply, roll	1.70	@	1.80
Best Tarred, 3 Ply, roll	2.00	@	2.10

Old Papers

Shavings—			
No. 1 Hard White	4.00	@	4.25
White Blank News.	1.75	@	2.00
Manila Env. Cuttings	2.80	@	3.00
No. 2 Hard White	3.25	@	3.50
No. 1 Soft White.	3.10	@	3.25
No. 2 Soft White.	2.25	@	2.50
No. 1 Mixed	1.60	@	1.75
No. 2 Mixed	1.25	@	1.50
Solid Ledger Stock.	2.00	@	2.25
Writing Paper	—	@	1.70
No. 1 Books, Heavy	1.60	@	1.80
No. 1 Books, Light	1.40	@	1.50
No. 1 New Manila.	2.50	@	2.60
No. 1 Old Manila.	1.75	@	2.00
Print Manila	1.05	@	1.20
Old Kraft	2.00	@	2.25
Overissue News	1.00	@	1.20
Old Newspapers	.90	@	1.00
No. 1 Mixed Paper.	.85	@	.90
Box Board, Chip	.85	@	.90

Bagging

Price f. o. b. Boston

Gunny No. 1—			
Foreign	1.12½	@	2.00
Domestic	2.00	@	2.12½
Manila Rope	6.00	@	6.50
Mixed Rope	1.50	@	1.62½
Scrap Burlaps	1.25	@	1.50
Wool Tares, heavy.	2.00	@	2.13
Mixed Strings	1.50	@	1.62½
New Burlap Cuttings	2.00	@	2.25

Domestic Rags (New)

Price f. o. b. Boston

Shirt Cuttings—			
New White No. 1	.13½	@	.14
Silesias, No. 1	.09	@	.09½
New Unbleached.	.12½	@	.13
Washable	.06	@	.06½
Fancy	.07	@	.07¼
Cottons — according to grades, Blue Overall	.09½	@	.10
New Blue	.05½	@	.06
New Black, soft	.06	@	.06¼
Khaki Cuttings	.05½	@	.06
Corduroy	.04	@	.04½
New Canvas	.10½	@	.11

Domestic Rags (Old)

Price f. o. b. Boston

White No. 1—			
Repacked	7.50	@	8.00
Miscellaneous	6.50	@	7.00
White No. 2—			
Repacked	5.50	@	6.00
Miscellaneous	4.75	@	5.50
Thirds and Blues—			
Repacked	3.75	@	4.00
Miscellaneous	3.00	@	3.25
Roofing Stock—			
No. 1	2.25	@	2.37
No. 2	2.12½	@	2.25
No. 3	1.50	@	1.75
No. 4	1.15	@	1.20

James A. Outterson's Estate $15,000

[FROM OUR REGULAR CORRESPONDENT.]

HOLYOKE, Mass., September 16, 1924.—James A. Outterson who died May 6, 1922, and whose estate has recently been appraised in New York, lived in Holyoke about 35 years ago being for three years machine tender at the Whiting Paper Company's No. 2 mill. His net estate was figured to be only a little over $15,000 due to financial difficulties of the Carthage Sulphite and Paper Company previous to his death. Charles A. Outterson one of Holyokes most famous papermakers was his uncle. The elder Outterson was superintendent of the old Winona Paper Company mill, the Beebe & Holbrook Paper Company and the Connecticut River Paper Company.

During his last years he was connected with the Crocker Paper Company. He died in 1909.

New York Market Review.

OFFICE OF THE PAPER TRADE JOURNAL,
Wednesday, September 17, 1924.

Those who are canvassing the paper market at the present time in search of special concessions are finding conditions vastly different from what they were a short time ago. During the weeks of unqualified dullness there were those who yielded to the inevitable temptation to secure business by cutting a corner here and there. Those who did so are today pursuing different tactics and for that reason the concession-seekers are, for the most part, having their labors for nothing. That alone proves that the paper market conditions are improving, slow though that improvement may be for the eliminating of special concessions gives a healthier tone to the market and makes things better in the long run for every one concerned. The past week saw further gains in the market. It was a trivial gain, it is true, as has been the case for the past two weeks but, as a factor in the paper business points out, it is better to have a slow but steady gain covering a period of time than a sudden spurt of activity followed by a sudden reaction. There has probably never been a time when the various sales organizations have labored harder to bring home business than during the insufferably dull period from which the paper market is just emerging. There have been times when it seemed as though business was not available no matter what strenuous sales efforts were put forward. There has been no relaxation in those efforts up to the present time for even now there is no such thing as easy business to be procured. But the sales organizations are finding the buyers a little less resistive of their efforts and their labors are constantly bringing more and more encouragement in the form of actual business in place of the mere words of partial encouragement with which they were previously usually turned away.

Business in general is somewhat better than it has been and the paper market is naturally reflecting this to some extent. Those lines which enjoy a seasonal activity due to the Christmas holidays are beginning to feel the approach of that period. Box board is one of these and conditions in this branch of the trade is showing a material improvement. The paper mills are slowly increasing their production and the consumption in all grades of paper is greater than it was a month or even two weeks ago. The printing trade is more active. The large mail order houses are somewhat late about getting out their big Fall catalogues but their orders are coming through now. Advertising campaigns which have been held in abeyance for more opportune business conditions are being launched in many instances and this all helps the magazine and newspaper publishers and in turn helps the paper market. There is not the "pep" that is often found in the Fall paper business as yet but there appears to be better reason for anticipating good business than there has been for a long time. Prices are holding firm. There is little change in them but it would seem as though revised schedules would be the order of the day at an early date.

News print is doing nicely. The demand at the present time is such that the curtailed production of the mills will not much more than supply it. As the demand increases more mills will increase their working schedule and it will probably not be long before they are running at close to total capacity.

Writing papers are starting to show more activity. The holiday trade can always be depended upon to give writing papers a substantial boom and orders looking forward to the Christmas trade are coming in daily.

Book papers and all grades of fine paper stock are doing better, their improvement being due to the vastly improved conditions in the printing trade.

Mechanical Pulp

The demand for mechanical pulp is very good. It is said that grinders are experiencing difficulty because of low water and that their output is therefore considerably under capacity. As a result not the usual amount of pulp is being offered in the open market. What available stock exists is being eagerly snatched up. Under the circumstances it is likely that the price may go still higher.

Chemical Pulp

The chemical pulp market is strong. The demand is better than it has been in some time and there is none too great a surplus of stock. The buyers are therefore more inclined to buy for the future than they have been of late. The prices are stiffening.

Rags

The rag market has been vastly improved by a considerable minimizing of concessions. There are fewer today who are struggling to get business in any way possible and most of the dealers are conforming to the market schedule. Imported rags are in demand and the prices are holding strong.

Old Rope and Bagging

During the past week there was a little less call for old rope and bagging but the prices continue to hold steady.

Waste Paper

There is nothing new to be said in regard to waste paper except that the past week has seen an easing in prices on some grades.

Twine

The twine market is still slow but has showed a slight improvement. Prices hold firm but they have not showed an inclination to budge as yet.

Government Study of Marketing

The Department of Commerce will continue the study of merchandising methods relative to which a preliminary meeting was held in Washington in June last. W. Leonard Thompson, assistant chief of the Domestic Commerce Division has just been in New York to see Dr. Hugh P. Baker, executive secretary of the American Paper and Pulp Association, with reference to participation of the paper industry in this study. The study will be semi-official in character, pending further governmental authority, but plans are now under way for the continuance of the work under a special committee of which Owen D. Young is chairman.

The paper industry will be represented through invitations to Col. B. A. Franklin representing the fine papers, George M. Wetmore the coarse papers, and W. L. Carter, the specialty papers to cooperate with the committee as representatives of the American Paper and Pulp Association.

Another interesting development in the Department of Commerce is the fact that John Matthews, Jr., chief of the Paper Division, which was established through the insistence of the American Paper and Pulp Association that the department recognize the importance of the paper industry, is now acting assistant director of the Bureau of Foreign and Domestic Commerce. The excellent work he has done in assisting the paper industry was responsible for his being given this opportunity for wider service to the government.

Miss Kiely Before Specifications Committee

[FROM OUR REGULAR CORRESPONDENT.]

WASHINGTON, D. C., September 10, 1924.—Miss Helen U. Kiely, of the American Writing Paper Company, appeared last week before the Paper Specifications Committee of the Joint Congressional Meeting on Printing. It is understood that she made a number of valuable sugestions in connection with changes in specifications. She is the first representative of paper manufacturers to appear before the Committee in answer to its invitation.

A Remarkable Range of Grades, Textures and Weights

Orr Endless Felts can now be obtained up to 86 feet in length.

With our enlarged new equipment we can now furnish Paper Manufacturers with endless felts up to 86 feet in length.

Paper Manufacturers who carefully check manufacturing costs, and also strive to produce more and better paper at a lower cost per ton, prefer the unvarying quality and long service of ORR felts. A trial of them will bring about a preference that will be lasting.

THE ORR FELT & BLANKET COMPANY, Piqua, Ohio

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Standard Quality
Lowest Prices

The Casein Manufacturing Company

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THE DRAPER FELTS

All kinds and styles of Felts for all kinds and styles of Papers.

Write us about your Felt problems and let us help you reduce your Felt Costs—we will call anywhere at any time.

DRAPER BROS. COMPANY
CANTON, MASS.
Woolen manufacturers since 1856

THE WM. CABBLE EXCELSIOR WIRE MFG. CO.

Established 1848
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Manufacturers of Superior Fourdrinier Wires
Brass, Copper and Iron Wire Cloth of every Description.
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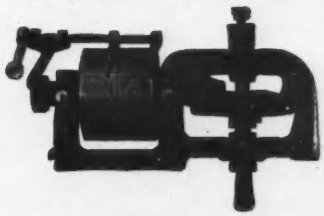

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NEW ENGLAND TANK & TOWER CO.
30 CHURCH ST., N. Y. EVERETT, MASS.

Miscellaneous Markets

OFFICE OF THE PAPER TRADE JOURNAL,
WEDNESDAY, September 17, 1924.

The chemical market this week is exhibiting a healthier tone than for some time past. The improvement continues to be slow but it is a healthy improvement which speaks promisingly for the future. This does not mean that anything of a really stimulating nature is taking place but it does mean that various chemical-using trades and industries are getting into better shape and that as a result of their improvement more business is coming to the chemical men. This is as true of the paper trade as of other industries although the paper industry has not picked up to the extent that some industries have. Nevertheless the paper business is seeing somewhat better days than it did a month ago and the chemical market is deriving the benefit of the improvement. Larger withdrawals against their contracts are being made by many of the users and a steady betterment is what the chemical men are confidently looking for. Prices remain firm but there have been no changes during the past week. What the new prices will be on various commodities continues to be a much debated subject. Announcement of new schedules is being awaited with eager interest and there is no question but that much business is being held back on the assumption that when the new prices are made they will be lower. This may prove true in regard to certain of the items but the general opinion is that when the revision comes it will be upward instead of downward on some of the leaders.

With Fall business setting in there is bound to be an increase in demand for most of the commodities, especially since buying has for so long a period been of the hand to mouth variety. Chemical users have no reserve back of them and buying on a more generous scale must soon result not matter what the price may be.

BLANC FIXE.—The end of another week finds blanc fixe unchanged. There is still only a slight demand for it and production is still being limited to meet the demand. The price is from $75 to $80 a ton for the powder and from $50 to $55 for the pulp.

BLEACHING POWDER.—A number of inquiries have been made the past week concerning the deliveries of bleaching powder for next year. These inquiries are being looked upon with suspicion, however, as they bear the ear-marks of "feelers" as to what the new schedule will be or as an effort to find out if the present schedule can be maintained. It is said that the paper industry considers the present price too high and that several factors in the industry have stated that they will not buy if the present schedule is maintained. Meanwhile the price remains at from 1.90 to 2.15 cents a pound.

CAUSTIC SODA.—The past week witnessed a little improvement in caustic soda. The price for export has been raised and there is said to be little stock for shipment. The price continues to hold at from 3.10 to 3.15 cents a pound on a flat basis at the works.

CASEIN.—No change has been reported in the condition of casein. It still has a dull demand. The price remains at from 10½ to 11 cents a pound.

CHINA CLAY.—No fault is found with the condition of China clay. The demand is very fair. The price is firm, the quotation being from $16 to $20 a ton for the imported grades and from $12 to $15 a ton for the domestic grades.

CHLORINE.—The chlorine demand is a shade better but is still far from what it should be. When the new price schedule is announced it may bring activity to life for it. The price is from 4.50 to 7.00 cents a pound in tanks.

ROSIN.—Rosin is firming up constantly. There is a brisk foreign demand. Sales are reported at $6.05 and $6.10 although the market standard quotation is still $6.00.

SALT CAKE.—Salt cake is still doing nicely. It is showing steady improvement day by day. The contract business is increasing each week. The present quotation is from $17 to $20 a ton.

SODA ASH.—Soda ash is keeping up but finds hard work making any real headway. Good orders are occasionally placed but the demand is far from what it should be. The price is 1.38 cents a pound on a flat basis at the works.

SULPHATE OF ALUMINA.—Another good week's business was registered by sulphate of alumina which has been picking up. A marked improvement is expected here before the month is over.

SULPHUR.—Sulphur, which is susceptible to few changes, reports nothing new. Withdrawals of stated amounts at regular intervals are being made against contracts and that is all there is to be said. The same price is quoted,—from $18 to $19 a ton.

TALC.—Another week showed talc in a little better demand. It is believed that it has weathered its dull period and now really has something substantial to look forward to. The price is still from $16 to $17 a ton.

Story of the International Paper Co.

An attractively printed and exceedingly interesting book has been published by the International Paper Company. It tells the story of the origin and growth of the company during a quarter of a century with a brief description of the manufacture of paper from the harvesting of pulpwood to the finished roll.

The volume has been prepared by Col. W. E. Haskell. As frontispiece it has a picture of Philip Tell Dodge, who last June retired as president of the International. There is given a map which shows the location of the woodlands and mills of the company and its subsidiaries in the United States and Canada with a key to same. The foreword is devoted to the origin and development of the art of paper making. Then comes the story proper of the International followed by a section devoted to the company's general policy and another to its product and personnel. The paper used in the attractive volume is called India Superoto and was made at the Niagara Falls Mill of the International Paper Company. Col. Haskell has told the story well and those who read it will find it a fascinating recital of the great accomplishments achieved by the International in so short a space of time. There are abundant illustrations which do their share to enhance the value of the text.

Buys Charles W. Rider Co.

The Domestic Mills Paper Company has purchased the merchandise, machinery, furniture, fixtures and good will of the Charles W. Rider Company and for the present is operating this business under the style of the Charles W. Rider Department of the Domestic Mills Paper Company.

Charles W. Rider is in charge of the combined departments and associated with him are Robert Miles and Fred Geddicks. For the present the paper box manufacturers are invited to use either of the following addresses at their convenience.

Domestic Mills Paper Company, 629 W. 27th street. Telephone, Chickering 1340.

Charles W. Rider Company, 104 Wooster street. Telephone, Canal 5800.

Service of A. P. & P. A. to Mills

The American Paper and Pulp Association has just issued a folder entitled "The Service of the American Paper and Pulp Association to the Paper and Pulp Mills of the United States," in which ten particular phases of work being done for the industry are reviewed. The nature of the work done is explained under the following titles: Representing the Industry, Statistics, Tariff and Import Service, Emergency Service, Information, Meetings and Conventions, Arbitration, Legal Advice, Research, Distribution and New Markets.

The folder also lists the Association officers, and the Associations affiliated.